15¢

Thrilling WONDER Stories

JUNE 1939

• TENTH ANNIVERSARY ISSUE •

THRILLING WONDER STORIES

15¢

JUNE

A THRILLING PUBLICATION

JOHN TAINE • STANLEY G. WEINBAUM • JACK WILLIAMSON

DR. DAVID H. KELLER • EDWARD ELMER SMITH, PH.D. • EANDO BINDER

OTIS ADELBERT KLINE • JOHN C. BURROUGHS & HULBERT BURROUGHS

The Money Making Marvel of the Age!

PICTURE RING SELLS TO EVERYONE!

SAMPLE RING From Any Photo You Send Only 48¢

Hand Tinted in Natural Life Like Colors. 10c Extra

It's here! The hottest, most sensational, most gripping selling idea of the age! THE PICTURE RING — the ring men and women everywhere, rich and poor, young and old want to wear and keep their whole lives long. Why? Because on this beautiful ring is permanently reproduced any photograph, snapshot or picture of some loved one. Yes — reproduced clearly and sharply and made part of the ring itself so it can't rub off, come off or fade off. This sensational new idea is making an unbelievable hit. Men and women—even those without an hour's selling experience — are taking dozens of orders a day and making dollars of profit by the handful. And now, in your territory, YOU can cash in big, every day, with this exciting sure-fire profit-maker and earn money so easily, it will seem more like play than work.

Beautiful Permanent Picture Ring Made From Any Photo or Picture

For only $1.00 retail—look what you offer. A made-to-measure onyx-like ring adorned with the most precious setting in the world—a reproduction of the picture of a loved one. The ring itself can't tarnish. It will wear forever with ordinary care. The picture of the loved one is clearly, sharply reproduced with surprising faithfulness and becomes an inseparable part of the ring. It can't wear off, rub off, or fade off.

Make Pockets Full of Dollars Just Wearing Ring!

Can you imagine a more novel, more unusual gift than the Picture Ring? How can any man or woman find a more beautiful way to express loving sentiment than giving a wife, a child, a parent, a friend, a sweetheart a Picture Ring with the donor's portrait expertly reproduced! What a surprise! 10 orders a day is an easy goal—20 orders a day are not too much to expect.

SELLS TO EVERYONE!

A Treasure Remembrance Its Value Beyond Price!

Once women carried pictures of their loved ones in lockets; and men carried them in watch cases. Those days are gone, but the desire to carry the portrait of a loved one is as strong as ever. Not until the amazing secret process for transferring pictures to rings was discovered, was it possible to revive this grand old custom and to satisfy the hunger of every human being to express again this grandest of all sentiments. How mothers and fathers will welcome this opportunity to wear a ring with the most precious setting of all — a picture of their beloved child. How happy every man and woman will be to keep alive the memory of a departed one by carrying with them always, night and day, this beautiful Picture Ring.

Order Your Sample Ring Now! You Don't Risk a Penny!

Never before has anything like this come your way. No competiton from anyone — no looking for prospects (they are all around you) — no carrying a big stock or putting any money into goods. Simply showing your sample ring a few times a day, if you only start with your friends and neighbors, will be enough to give you an endless chain of orders. We cut away all red tape and are ready to send you a SAMPLE RING at sensationally low special wholesale price of only 48c. The minute you take it out of its beautiful Gift Box you are ready to go after the orders. Rush the coupon below for YOUR sample ring NOW! That's all the outfit you need. It will do all your selling for you. And we make it easy for you to obtain this sample ABSOLUTELY FREE OF A PENNY COST under our liberal offer.

PICTURE RING CO.

DEPT. B-26 12 TH. & JACKSON STREET CINCINNATI OHIO

SEND NO MONEY!

Hundreds of customers write they wouldn't take a fortune for their rings if they couldn't get others. $5.00 and even $10.00 would be a small price for the PICTURE RING—but as a special offer we send you the beautiful PICTURE RING, made from any photo or picture you send for only 48c! Don't wait. Rush the coupon at once for the sample ring on our NO RISK plan and see for yourself what a whirl-wind money maker this is for you. ACT RIGHT NOW!

MOTHER HUSBAND BABY

SEND YOUR RING SIZE NOW

PICTURE RING CO., Dept. B-26, 12th and Jackson Sts., Cincinnati, Ohio.

RING SIZE .....

Enclosed is photo. Please rush my individually made Picture Ring and starting equipment. Will pay postman 48c plus few cents postage. It is understood that if I am not entirely satisfied, I can return ring within 5 days and you will refund my money in full.

Hand Tinted in Natural Life Like Colors. 10c Extra

Name.....

Address.....

City..... State.....

YOUR RING SIZE: Wrap strip of paper around second joint of finger, trim so ends meet. Measure strip down from top on this chart. Number at end is your size.
9 10 11 12 13

If You Had Only 10 Days to Live

SUPPOSE the doctors told you that you had only ten *days* more to live! What would you give to have another ten YEARS of gloriously healthy life? "Anything in the world," you would say. But, unfortunately, it would then be too late. NOW, while you still have many more years to live, is the time to fortify yourself against later troubles.

Are *you* getting paunchy around the waistline—worried about constipation, heartburn, short-wind, nervousness, continued tiredness? Or are you too thin, underweight, anaemic—always getting hacking coughs and colds, frequent headaches? Then here are some interesting facts it will pay you to read:

Constipation Is Only ONE of the World's Plagues

One of the most common aliments today is Constipation—so common that many people do not realize the serious results of it. Just think what would happen if the sewers of any city were clogged and did not drain out daily. Disease and death would break out everywhere! That is exactly what begins to happen in your system when you are chronically constipated. Yet to end Constipation is not very difficult providing you have no organic ailment.

But Constipation—common as it is—is only ONE of the world's plagues! Another is just the result of pure carelessness—many of us simply let our general physical condition "go to seed." We "take our bodies for granted"! First, we may begin to notice that we are getting a "little heavy around the waist." We do nothing about it. Suddenly we are amazed to find that we have a **real** "pot-belly." To our dismay, we find we are FAT! And no wonder! . . . because **all** of our processes are slowing up, due to lack of attention and healthful stimulation. Just carelessness. We get nervous, jumpy. Flabby, sluggish. Short-winded. Pepless. We begin to look old, feel old. Yet are NOT old in years! Even our hair gets lifeless, caked with dandruff. It starts to fall out and—another shock!—DOES NOT COME BACK IN!

"You Have Made a NEW MAN of Me"

I have helped over many thousands of men (of all ages and in all parts of the world) WIN OUT over conditions like these. Men write me, saying: "You have made a New Man of me!"

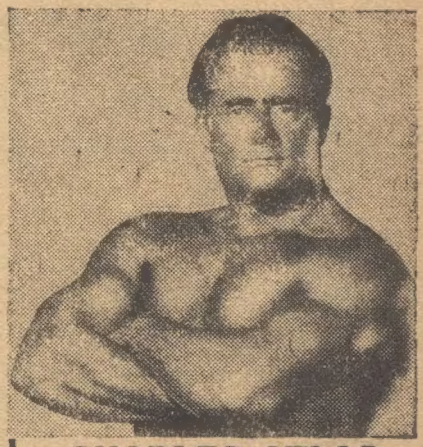
My records show, for example, that I have helped relieve of Constipation nine out of ten of my clients. My method of body building tones up your entire system—actually overhauling your body. I give exercise and life to those numerous little-used muscles in your body that begin to shrivel up and atrophy. I do not believe in any weights, springs or other old-fashioned, dangerous methods. My system of Dynamic Tension is natural and effective, and may easily be applied right in the privacy of **your own home!**

FREE 48-PAGE BOOK

To you who are interested in adding years of health and happiness to your life I would like to send a copy of my book telling how I have helped thousands of others.

Some of these men were run-down, nervous and constipated. I showed them how to be able to enjoy the many pleasures of life. They got rid of their "bay windows." They felt the surge of new vigor flowing through their systems. They have actually added many years to their lives.

Don't you think this is worth investigating. For the mere cost of a postage stamp! Just write your name and address carefully on the coupon here and I shall immediately send you a copy of my book, "EVERLASTING HEALTH AND STRENGTH," and full particulars. Of course this places you under no obligation, and I also want you to know that no one will call upon you to try to sell you anything. Merely address: **Charles Atlas, Dept. 77-F, 115 East 23rd Street, New York, N. Y.**



CHARLES ATLAS

Holder of the Title, "The World's Most Perfectly Developed Man"

Author of "Everlasting Health and Strength"

of which 972,000 copies have been distributed!

Charles Atlas, who was once a sickly 97-lb. weakling, is today known internationally as the world's outstanding physical instructor. Read below just a few of the thousands of letters he has received from grateful clients all over the world:

"I used to feel tired and run down. I could never eat a good meal, get a good night's sleep. Now I sleep like a log and rise early in the morning feeling like a new person, ready to tackle the day's work. I was never before in such good condition and am glad I took your advice"—C. H., Staten Island, N.Y.

"You have done more for me in one month than others, at 10 times the cost, did in one year. Today at 51, I fell younger than I did at 31."—P. A., Chicago, Ill.

"Has given me a new and finer outlook on life. Being 'body-conscious' is certainly much more constructive than just enduring poor health. I have lots more pep, and, after being cursed with constipation for many years, I find it gone."—L. C. C., Phila., Pa.

"My nervous troubles have vanished and constipation is a thing of the past."—G. T. F., Ohio.

CHARLES ATLAS, Dept. 77-F,
115 East 23rd Street, New York, N. Y.

I want the proof that your system of *Dynamic Tension* will make a New Man of me—give me a healthy, husky body and greater muscle development. Send me your free book. "Everlasting Health and Strength," and full details about your amazing 7-Day TRIAL OFFER.

Name .....
(Please print or write plainly)

Address .....

City ..... State.....

• TENTH ANNIVERSARY ISSUE •

THRILLING WONDER STORIES

The Magazine of Prophetic Fiction

Vol. XIII, No. 3

June, 1939

IN THE NEXT ISSUE

•

RACE AROUND THE MOON

A Novel of Lunar Conquest

By

OTIS ADELBERT KLINE

•

THE WARNING FROM THE PAST

A Novelet of the Time Capsule

By

ROBERT MOORE WILLIAMS

•

THE MAN FROM XENERN

An Interplanetary Novelet

By

STANTON A. COBLENTZ

•

ROMAN HOLIDAY

A Short Story

By

KELVIN KENT

—and many others!

Table of Contents

• COMPLETE SHORT NOVEL

DAWN OF FLAME
By STANLEY G. WEINBAUM 99

• COMPLETE NOVELETS

THE ULTIMATE CATALYST
By JOHN TAINE 13

THE MAN WITHOUT A WORLD
By JOHN COLEMAN and HULBERT BURROUGHS 38

ROBOT NEMESIS
By EDWARD ELMER SMITH, Ph. D. 72

• THRILLING SHORT STORIES

STOLEN CENTURIES
By OTIS ADELBERT KLINE 30

MOON OF INTOXICATION
By EANDO BINDER 53

PASSAGE TO SATURN
By JACK WILLIAMSON 61

NO MORE FRICTION
By DR. DAVID H. KELLER 93

• SPECIAL FEATURES

THE STORY OF THE COVER
By RAY CUMMINGS 37

MEET OUR SCIENCE FICTION FAMILY
SIX PAGES OF BIOGRAPHIES AND PICTURES. 85

SCIENTIFACTS
By J. B. WALTER 91

SCIENCE QUIZ
A FASCINATING KNOWLEDGE TEST 117

IF—(A Picture Feature)
By JACK BINDER 118

• OTHER FEATURES AND DEPARTMENTS

FORECAST FOR THE NEXT ISSUE 71

THE SCIENCE FICTION LEAGUE 120

THE READER SPEAKS 126

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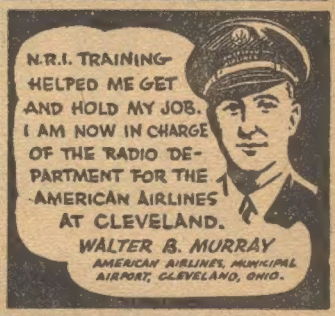
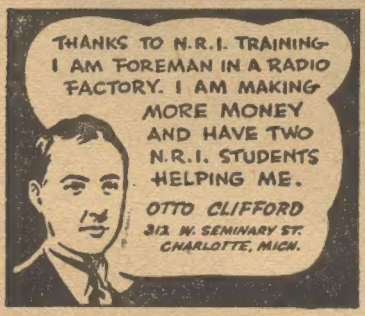
Manuscripts must be accompanied by self-addressed, stamped envelopes, and are submitted at the author's risk.

Read How These Men Got Better Jobs

THEN FIND OUT WHAT RADIO OFFERS YOU Mail Coupon

AFTER COMPLETING 20 LESSONS I OBTAINED MY RADIO BROADCAST OPERATOR'S LICENSE AND IMMEDIATELY JOINED STATION WMPC WHERE I AM NOW CHIEF OPERATOR.
HOLLIS F. HAYES
85 MADISON ST., LAPEER, MICH.


N.R.I. TRAINING HELPED ME GET AND HOLD MY JOB. I AM NOW IN CHARGE OF THE RADIO DEPARTMENT FOR THE AMERICAN AIRLINES AT CLEVELAND.
WALTER B. MURRAY
AMERICAN AIRLINES, MUNICIPAL AIRPORT, CLEVELAND, OHIO.


THANKS TO N.R.I. TRAINING I AM FOREMAN IN A RADIO FACTORY. I AM MAKING MORE MONEY AND HAVE TWO N.R.I. STUDENTS HELPING ME.
OTTO CLIFFORD
312 W. SEMINARY ST. CHARLOTTE, MICH.

MY LOUDSPEAKER SYSTEM PAYS ME ABOUT $35 A WEEK BESIDES MY RADIO WORK. IF IT HAD NOT BEEN FOR YOUR COURSE I WOULD STILL BE MAKING COMMON WAGES.
MILTON I. LEIBY, JR., TOPTON, PA.

I EARN $10 TO $25 A WEEK IN SPARE TIME AND ALWAYS HAVE PLENTY TO DO. ONLY TRAINED MEN CAN FIX RADIO SETS NOWADAYS. I OWE MY SUCCESS TO N.R.I.
WILLIAM F. RUPP,
RIGHTER MILL ROAD, GLADWYNE, PA.

I will Train You at Home for RADIO *and* TELEVISION

Why Many Radio Experts Make $30, $50, $75 a Week

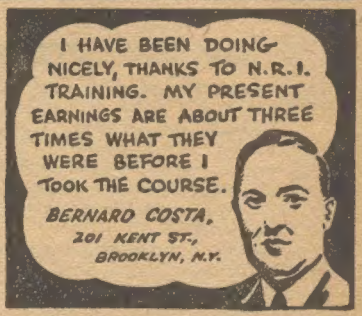
Radio broadcasting stations employ engineers, operators, station managers and pay well for trained men. Fixing Radio sets in spare time pays many $200 to $500 a year—full time jobs with Radio jobbers, manufacturers and dealers as much as $30, $50, $75 a week. Many Radio Experts open full or part time Radio sales and repair businesses. Radio manufacturers and jobbers employ testers, inspectors, foremen, engineers, servicemen, in good-pay jobs, with opportunities for advancement. Automobile, police, aviation, commercial Radio, loudspeaker systems, are newer fields offering good opportunities now and for the future. Television promises to open many good jobs soon. Men I trained have good jobs in these branches of Radio. Read how they got their jobs. Mail coupon.

Many Make $5, $10, $15 a Week Extra in Spare Time While Learning

The day you enroll I start sending Extra Money Job Sheets; show you how to do Radio repair jobs. Throughout your training I send plans and directions that made good spare time money—$200 to $500—for hundreds, while learning. I send you special Radio equipment to conduct experiments and build circuits. This 50-50 method of training makes learning at home interesting, fascinating, practical. I ALSO GIVE YOU A MODERN, PROFESSIONAL ALL-WAVE, ALL-PURPOSE RADIO SET SERVICING INSTRUMENT to help you make good money fixing Radios while learning and equip you for full time jobs after graduation.

Find Out What Radio Offers You

Act Today. Mail the coupon now for "Rich Rewards in Radio." It's free to any fellow over 16 years old. It points out Radio's spare time and full time opportunities and those coming in Television; tells about my training in Radio and Television; shows you letters from men I trained, telling what they are doing and earning. Find out what Radio offers YOU! MAIL COUPON in an envelope, or paste on a postcard—NOW!


I HAVE BEEN DOING NICELY, THANKS TO N.R.I. TRAINING. MY PRESENT EARNINGS ARE ABOUT THREE TIMES WHAT THEY WERE BEFORE I TOOK THE COURSE.
BERNARD COSTA,
201 KENT ST., BROOKLYN, N.Y.

J. E. SMITH, President,
Dept. 9FO9,
National Radio Institute,
Washington, D. C.

MAIL NOW • Get 64 page book FREE

J. E. SMITH, President, Dept. 9FO9
National Radio Institute, Washington, D. C.

Dear Mr. Smith: Without obligating me, send "Rich Rewards in Radio," which points out the spare time and full time opportunities in Radio and explains how you train men at home in spare time to become Radio Experts. (Please Write Plainly.)

NAME..... AGE.....

ADDRESS .....

CITY..... STATE.....

HOW DO YOU LOOK IN YOUR BATHING SUIT?

SKINNY? THOUSANDS GAIN 10 TO 25 POUNDS THIS QUICK EASY WAY

Read how thin, tired-out, nervous, rundown people have gained health and strength—*quick!*

ARE you ashamed to be seen in a bathing suit, because you're too skinny and scrawny-looking? Are you often tired, nervous—unable to eat and sleep properly?

Then here's wonderful news! Thousands of skinny, rundown men and women have gained 10 to 25 pounds, new pep, new popularity—with this scientific vitamin-rich formula, Ironized Yeast.

Why it builds up so quick

Scientists have discovered that countless people are thin and rundown—tired, cranky, washed-out—only because they don't get enough Vitamin B and iron from their daily food. Without enough of these vital substances you may lack appetite and not get the most body-building good out of what you eat.

Now you get these exact missing substances in these marvelous little Ironized Yeast tablets. No wonder, then, that they have helped thousands of people who needed these substances to gain new naturally attractive pounds, new health and pep, new popularity and success—often in just a few weeks!

Make this money-back test

Get Ironized Yeast tablets from your druggist today. If with the first package you don't eat better and FEEL better, with much more strength and pep—if you're not convinced that Ironized Yeast will give you the new pounds, new energy and life you've longed for, the price of this first package promptly refunded.

But just one warning! Due to the success of Ironized Yeast, a number of cheap, inferior substitutes have sprung up. Of course inferior substitutes do not give the same results. So insist on genuine Ironized Yeast. Look for the letters IY stamped on each tablet.

Special offer!

To start thousands building up their health right away, we make this special offer. Purchase a package of Ironized Yeast tablets at once, cut out the seal on the box and mail it to us with a clipping of this paragraph. We will send you a fascinating new book on health, "New Facts About Your Body." Remember, results with the first package—or money refunded. At all druggists. Ironized Yeast Co., Inc., Dept. 775, Atlanta, Ga.

TUNE IN ON THE GOOD WILL HOUR, every Sunday Evening. See your local paper for time and station.

Irvin Echard

Gains 14 lbs. in 5 Weeks

"I was so skinny I didn't want to go out. Finally, I tried IRONIZED YEAST. In five weeks I gained 14 lbs. Now I go out regularly, have good times."

Irvin Echard, Barberton, O.

R. Losflier

Gains 12 lbs., admired now

"Was losing weight and pep. Then I got Ironized Yeast. In 6 weeks I gained 12 lbs. and am full of pep. Everybody admires my physique, too." Ralph Losflier Arlington, Wash.

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...But Have You Ever Connected Them With Your Future?

• If you have been wondering how to get ahead . . . if you have been thinking about various "lines of work" . . . have you stopped to give Diesel any real thought?

• As a suggestion, think of the man-power side to "Diesel" . . . which has become the "line of work" for many men. Diesels must be designed, sold, installed, serviced, and operated by MEN . . . by men who KNOW Diesels.

• Here is just as real a line of work for you to consider as civil engineering, law, or medicine . . . so find out more about Diesel, now. All you need do is send the coupon below to the Hemphill Diesel Schools, America's first exclusively Diesel training institution.

• In return you receive interesting information about Diesels and Diesel industry. Also, complete information about Hemphill Diesel training—the day and night courses, and the Combination Home Study and Later Shop Training course. Highly illustrated booklet, "The March of Diesel"—new issue—sent free. Use the coupon below.

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NEW YORK, 31-31 Queens Blvd., Long Island City
DETROIT, 2348 West Lafayette Blvd.
CHICAGO, 2030 Larrabee Street
MEMPHIS, 449 Monroe Avenue
LOS ANGELES, 2010 San Fernando Road
SEATTLE, 515 Dexter Avenue
VANCOUVER, B. C., 1367 Granville Street

Please send me information on the Diesel industry, including my free copy of "March of Diesel" booklet and details on Hemphill Diesel training.

NAME_____ AGE_____

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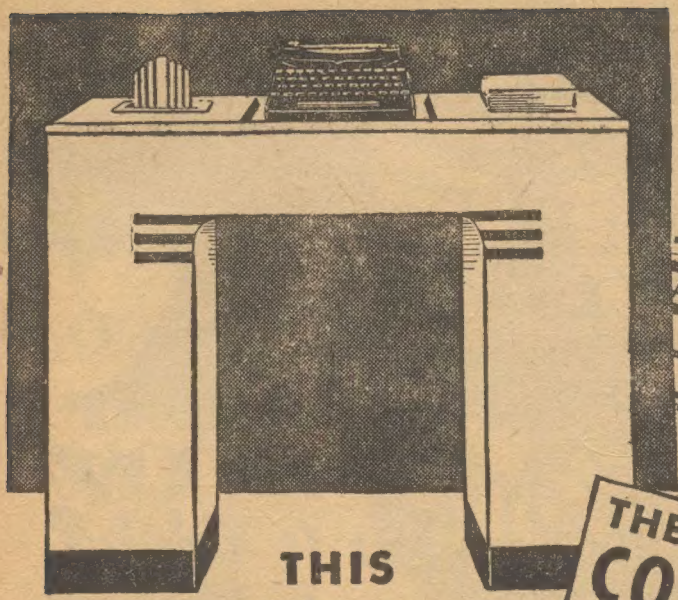
*City*_____ *State*_____



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WITH ANY

REMINGTON PORTABLE TYPEWRITER

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To help you even further, you get free with this special offer a 19-page booklet, prepared by experts, to teach you quickly how to typewrite by the touch method. When you buy a Noiseless you get this free Remington Rand gift that increases the pleasure of using your Remington Noiseless Portable. Remember, the touch typing book is sent free while this offer holds.

SPECIAL CARRYING CASE

The Remington Noiseless Portable is light in weight, easily carried about. With this offer Remington supplies a sturdy, beautiful carrying case which rivals the most attractive luggage you can buy.

SPECIFICATIONS

ALL ESSENTIAL FEATURES of large standard office machines appear in the Noiseless Portable—standard 4-row keyboard; back spacer; margin stops and margin release; double shift key; two color ribbon and automatic reverse; variable line spacer; paper fingers; makes as many as seven carbons; takes paper 9.5" wide; writes lines 8.2" wide, black key cards and white letters, rubber cushioned feet.

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The Remington Noiseless Portable Typewriter is sold on a trial basis with a money back guarantee. If, after ten days trial, you do not wish to keep the typewriter, we will take it back, paying all shipping charges. You take no risk.

MAIL COUPON NOW!

Remington Rand Inc., Dept. 169-4
465 Washington St., Buffalo, N. Y.

Tell me, without obligation, how to get a Free Trial of a new Remington Noiseless Portable, including Carrying Case and Free Typing Instruction Booklet for as little as 10c a day. Send Catalogue.

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THRILLING WONDER STORIES

TENTH ANNIVERSARY ISSUE

THE ULTIMATE CATALYST

Her hand was almost in the snake pen

Kadir Rules Amazonia—But the Animal and Plant Kingdoms Are Beyond His Sway!

By JOHN TAINE

Author of "The Time Stream," "The Purple Sapphire," etc.

CHAPTER I

Quarantined

THE Dictator shoved his plate aside with a petulant gesture. The plate, like the rest of the official banquet service, was solid gold with the Dictator's monogram, K. I.—Kadir Imperator, or Emperor Kadir—embossed in a design of machine guns round the edge. And, like every other plate on the long banquet table, Kadir's was piled high with a colorful assortment of raw fruits.

This was the dessert. The guests

A NOVELET OF SUPER-CHEMISTRY

had just finished the main course, a huge plateful apiece of steamed vegetables. For an appetizer they had tried to enjoy an iced tumblerful of mixed fruit juices.

There had been nothing else at the feast but fruit juice, steamed vegetables, and raw fruit. Such a meal might have sustained a scholarly vegetarian, but for soldiers of a domineering race it was about as satisfying as a bucketful of cold water.

A foul red fungus lay

"Vegetables and fruit," Kadir complained. "Always vegetables and fruit. Why can't we get some red beef with blood in it for a change? I'm sick of vegetables. And I hate fruit. Blood and iron—that's what we need."

The guests stopped eating and eyed the Dictator apprehensively. They recognized the first symptoms of an imperial rage. Always when Kadir was about to explode and lose control of his evil temper, he had a preliminary attack of the blues, usually over some trifle.

They sat silently waiting for the storm to break, not daring to eat while their Leader abstained.

Presently a middle-aged man, halfway down the table on Kadir's right,

had just finished the main course, a huge plateful apiece of steamed vegetables. For an appetizer they had tried to enjoy an iced tumblerful of mixed fruit juices.

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calmly selected a banana, skinned it, and took a bite. Kadir watched the daring man in amazed silence. The last of the banana was about to disappear when the Dictator found his voice.

directly in their path

"Americano!" he bellowed like an outraged bull. "Mister Beetle!"

"*Doctor* Beetle, if you don't mind, Senhor Kadir," the offender corrected. "So long as every other white man in Amazonia insists on being addressed by his title, I insist on being addressed by mine. It's genuine, too. Don't forget that."

"Beetle!" The Dictator began roaring again.

But Beetle quietly cut him short. "'Doctor' Beetle, please. I insist."

Purple in the face, Kadir subsided. He had forgotten what he intended to say. Beetle chose a juicy papaya for himself and a huge, greenish plum for his daughter, who sat on his left. Ignoring Kadir's impotent rage, Beetle addressed him as if there had been no unpleasantness. Of all the company, Beetle was the one man with nerve enough to face the Dictator as an equal.

"You say we need blood and iron," he began. "Do you mean that liter-

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ally?" the scientist said slowly.

"How else should I mean it?" Kadir blustered, glowering at Beetle. "I always say what I mean. I am no theorist. I am a man of action, not words!"

"All right, all right," Beetle soothed him. "But I thought perhaps your 'blood and iron' was like old Bismarck's—blood and sabres. Since you mean just ordinary blood, like the blood in a raw beefsteak, and iron not hammered into sabres, I think Amazonia can supply all we need or want."

"But beef, red beef—" Kadir expostulated.

"I'M coming to that in a moment." Beetle turned to his daughter. "Consuelo, how did you like that greenbeefo?"

"That *what?*" Consuelo asked in genuine astonishment.

Although as her father's laboratory assistant she had learned to expect only the unexpected from him, each new creation of his filled her with childlike wonderment and joy. Every new biological creation her father made demanded a new scientific name. But, instead of manufacturing new scientific names out of Latin and Greek, as many reputable biologists do, Beetle used English, with an occasional lapse into Portuguese, the commonest language of Amazonia. He had even tried to have his daughter baptized Buglette, as the correct technical term for the immature female offspring of a Beetle. But his wife, a Portuguese lady of irreproachable family, had objected, and the infant was named Consuelo.

"I asked how you like the greenbeefo," Beetle repeated. "That seedless green plum you just ate."

"Oh, so that's what you call it." Consuelo considered carefully, like a good scientist, before passing judgment on the delicacy. "Frankly, I didn't like it a little bit. It smelt like underdone pork. There was a distinct flavor of raw blood. And it all had a rather slithery wet taste, if you get what I mean."

"I get you exactly," Beetle exclaimed. "An excellent description." He turned to Kadir. "There! You see we've already done it."

"Done what?" Kadir asked suspiciously.

"Try a greenbeefo and see."

Somewhat doubtfully, Kadir selected one of the huge greenish plums from the golden platter beside him, and slowly ate it. Etiquette demanded that the guests follow their Leader's example.

While they were eating the greenbeefos, Beetle watched their faces. The women of the party seemed to find the juicy flesh of the plums unpalatable. Yet they kept on eating and several, a f t e r finishing one, reached for another.

The men ate greedily. Kadir himself disposed of the four greenbeefos on his platter and hungrily looked about for more. His neighbors on either side, after a grudging look at their own diminishing supplies, offered him two of theirs. Without a word of thanks, Kadir devoured the offerings.

As Beetle sat calmly watching their greed, he had difficulty in keeping his face impassive and not betraying his disgust. Yet these people were starving for flesh. Possibly they were to be pardoned for looking more like hungry animals than representatives of the conquering race at their first taste in two years of something that smelt like flesh and blood.

All their lives, until the disaster which had quarantined them in Amazonia, these people had been voracious eaters of flesh in all its forms from poultry to pork. Now they could get nothing of the sort.

The dense forests and jungles of Amazonia harbored only a multitude of insects, poisonous reptiles, gaudy birds, spotted cats, and occasional colonies of small monkeys. The cats and the monkeys eluded capture on a large scale, and after a few half-hearted attempts at trapping, Kadir's hardy followers had abandoned the forests to the snakes and the stinging insects.

THE chocolate-colored waters of the great river skirting Amazonia

on the north swarmed with fish, but they were inedible. Even the natives could not stomach the pulpy flesh of these bloated mud-suckers. It tasted like the water of the river, a foul soup of decomposed vegetation and rotting wood. Nothing remained for Kadir and his heroic followers to eat but the tropical fruits and vegetables.

Luckily for the invaders, the original white settlers from the United States had cleared enough of the jungle and forest to make intensive agriculture possible. When Kadir arrived, all of these settlers, with the exception of Beetle and his daughter, had fled. Beetle remained, partly on his own initiative, partly because friends in mind. "Give me three years. If you don't see me again by then, shed a tear and forget me."

"Senhorina Beetle!" It was Kadir roaring again. The surfeit of greenbeefos restored his old bluster.

"Yes?" Consuelo replied politely.

"I know now why your cheeks are always so red," Kadir shouted.

For a moment neither Consuelo nor her father got the drift of Kadir's accusation. They understood just as Kadir started to enlighten them.

"You and your traitorous father are eating while we starve."

Beetle kept his head. His conscience was clear, so far as the greenbeefos were concerned, and he could

The Author of this Story

John Taine

JOHN TAINE has long been one of science fiction's most popular writers. The author of nine successful fantasy novels, his real name is Eric Temple Bell. He was born in Aberdeen, Scotland, on February 7th, 1883. He is an American citizen.

Coming to the United States in 1902, he took his A.B. degree at Stanford University in 1904. In 1908 he was teaching fellow at the University of Washington, where he took his A.M. degree in 1909. In 1911 he entered Columbia University where he took his Ph.D. degree in 1912. He returned to the University of Washington as instructor of mathematics and became full professor in 1921. He has since taught at the University of Chicago, and at Harvard University. At present he is Professor of Mathematics at the California Institute of Technology.

Dr. Bell is a former President of the Mathematical Association of America, a former Vice President of the American Mathematical Society, and of the American Association for the Advancement of Science. He belongs to the Circolo Matematico di Palermo, the Calcutta Mathematical Society, Sigma Xi, Phi Beta Kappa, and the National Academy of Sciences of the United States. He has won the Bocher Prize of the American Mathematical Society for his research work.

His twelve published books include "The Purple Sapphire," "Queen of the Sciences," "The Gold Tooth," "The Great Adventure," "Green Fire," "The Iron Star," and the recent best-seller, "Men of Mathematics."

Kadir insisted that he stay and "carry on" against the snakes. The others traded Kadir their gold mines in exchange for their lives.

The luscious greenbeefos had disappeared. Beetle suppressed a smile as he noted the flushed and happy faces of the guests. He remembered the parting words of the last of the mining engineers.

"So long, Beetle. You're a brave man and may be able to handle Kadir. If you do, we'll be back. Use your head, and make a monkey of this dictating brute. Remember, we're counting on you."

Beetle had promised to keep his say truthfully that they were not the secret of Consuelo's rosy cheeks and his own robust health. He quickly forestalled his daughter's reply.

"The meat-fruit, as you call it, is not responsible for Consuelo's complexion. Hard work as my assistant keeps her fit. As for the greenbeefos, this is the first time anyone but myself has tasted one. You saw how my daughter reacted. Only a great actress could have feigned such inexperienced distaste. My daughter is a biological chemist, not an actress."

KADIR was still suspicious. "Then why did you not share

these meat-fruits with us before?"

"For a very simple reason. I created them by hybridization only a year ago, and the first crop of my fifty experimental plants ripened this week. As I picked the ripe fruit, I put it aside for this banquet. I thought it would be a welcome treat after two years of vegetables and fruit. And," Beetle continued, warming to his invention, "I imagined a taste of beef—even if it is only green beef, 'greenbeefo'—would be a very suitable way of celebrating the second anniversary of the New Freedom in Amazonia."

The scientist's sarcasm anent the 'new freedom' was lost upon Kadir, nor did Kadir remark the secret bitterness in Beetle's eyes. What an inferior human being a dictator was, the scientist thought! What stupidity, what brutality! So long as a single one remained—and Kadir was the last—the Earth could not be clean.

"Have you any more?" Kadir demanded.

"Sorry. That's all for the present. But I'll have tons in a month or less. You see," he explained, "I'm using hydroponics to increase production and hasten ripening."

Kadir looked puzzled but interested. Confessing that he was merely a simple soldier, ignorant of science, he deigned to ask for particulars. Beetle was only too glad to oblige.

"It all began a year ago. You remember asking me when you took over the country to stay and go on with my work at the antivenin laboratory? Well, I did. But what was I to do with all the snake venom we collected? There was no way of getting it out of the country now that the rest of the continent has quarantined us. We can't send anything down the river, our only way out to civilization—"

"Yes, yes," Kadir interrupted impatiently. "You need not remind anyone here that the mountains and the jungles are the strongest allies of our enemies. What has all this to do with the meat-fruit?"

"Everything. Not being able to export any venom, I went on with my research in biochemistry. I saw how you people were starving for flesh, and I decided to help you out. You had slaughtered and eaten all the horses at the antivenin laboratory within a month of your arrival. There was nothing left, for this is not a cattle country, and it never will be. There was nothing to do but try chemistry. I already had the greenhouses left by the engineers. They used to grow tomatoes and cucumbers before you came."

"So you made these meat-fruits chemically?"

Beetle repressed a smile at the Dictator's scientific innocence.

"Not exactly. But really it was almost as simple. There was nothing startlingly new about my idea. To see how simple it was, ask yourself what are the main differences between the higher forms of plant life and the lower forms of animal life.

"Both are living things. But the plants cannot move about from place to place at will, whereas, the animals can. A plant is, literally, 'rooted to the spot.'

"THERE are apparent exceptions, of course, like water hyacinths, yeast spores, and others that are transported by water or the atmosphere, but they do not transport themselves as the living animal does. Animals have a 'dimension' of freedom that plants do not have."

"But the beef—"

"In a moment. I mentioned the difference between the freedoms of plants and animals because I anticipate that it will be of the utmost importance in the experiments I am now doing. However, this freedom was not, as you have guessed, responsible for the greenbeefos. It was another, less profound, difference between plants and animals that suggested the 'meat-fruit.'"

Kadir seemed to suspect Beetle of hidden and unflattering meanings, with all this talk of freedom in a country dedicated to the 'New Freedom' of Kadir's dictatorship. But he could

do nothing about it, so he merely nodded as if he understood.

"Plants and animals," Beetle continued, "both have 'blood' of a sort. The most important constituents in the 'blood' of both differ principally in the metals combined chemically in each.

"The 'blood' of a plant contains chlorophyll. The blood of an animal contains haemoglobin. Chemically, chlorophyll and haemoglobin are strangely alike. The metal in chlorophyll is magnesium; in haemoglobin, it is iron.

"Well, it occurred to chemists that if the magnesium could be 'replaced' chemically by iron, the chlorophyll could be converted into haemoglobin! And similarly for the other way about: replace the iron in haemoglobin by magnesium, and get chlorophyll!

"Of course it is not all as simple or as complete as I have made it sound. Between haemoglobin and chlorophyll is a long chain of intermediate compounds. Many of them have been formed in the laboratory, and they are definite links in the chain from plant blood to animal blood."

"I see," Kadir exclaimed, his face aglow with enthusiasm at the prospect of unlimited beef from green vegetables. He leaned over the table to question Beetle.

"It is the blood that gives flesh its appetizing taste and nourishing strength. You have succeeded in changing the plant blood to animal blood?"

Beetle did not contradict him. In fact, he evaded the question.

"I expect," he confided, "to have tons of greenbeefos in a month, and thereafter a constant supply as great as you will need. Tray-culture—hydroponics—will enable us to grow hundreds of tons in a space no larger than this banquet hall."

The "banquet hall" was only a ramshackle dining room that had been used by the miners before Kadir arrived. Nevertheless, it could be called anything that suited the Dictator's ambition.

"Fortunately," Beetle continued, "the necessary chemicals for tray-culture are abundant in Amazonia. My native staff has been extracting them on a large scale for the past four months, and we will have ample for our needs."

"Why don't you grow the greenbeefos in the open ground?" one of Kadir's officers inquired a trifle suspiciously.

"TOO inefficient. By feeding the plants only the chemicals they need directly, we can increase production several hundredfold and cut down the time between successive crops to a few weeks. By properly spacing the propagation of the plants, we can have a constant supply. The seasons cut no figure."

They seemed satisfied, and discussion of the glorious future in store for Amazonia became general and animated. Presently Beetle and Consuelo asked the Dictator's permission to retire. They had work to do at the laboratory.

"Hydroponics?" Kadir enquired jovially. Beetle nodded, and they bowed themselves out of the banquet hall.

CHAPTER II

Forbidden Fruit

CONSUELO withheld her attack until they were safe from possible eavesdroppers.

"Kadir is a lout," she began, "but that is no excuse for your filling him up with a lot of impossible rubbish."

"But it *isn't* impossible, and it *isn't* rubbish," Beetle protested. "You know as well as I do—"

"Of course I know about the work on chlorophyll and haemoglobin. But you didn't make those filthy green plums taste like raw pork by changing the chlorophyll of the plants into haemoglobin or anything like it. How did you do it, by the way?"

"Listen, Buglette. If I tell you, it

will only make you sick. You ate one, you know."

"I would rather be sick than ignorant. Go on, you may as well tell me."

"Very well. It's a long story, but I'll cut it short. Amazonia is the last refuge of the last important dictator on earth. When Kadir's own people came to their senses a little over two years ago and kicked him out, he and his top men and their women came over here with their 'new freedom'. But the people of this continent didn't want Kadir's brand of freedom. Of course a few thousand crackpots in the larger cities welcomed him and his gang as their 'liberators,' but for once in history the mass of the people knew what they did not want. They combined forces and chased Kadir and his cronies up here.

"I never have been able to see why they did not exterminate Kadir and company as they would any other pests. But the presidents of the United Republics agreed that to do so would only be using dictatorial tactics, the very thing they had united to fight. So they let Kadir and his crew live—more or less—in strict quarantine. The temporary loss of a few rich gold mines was a small price to pay, they said, for world security against dictatorships.

"So here we are, prisoners in the last plague spot of civilization. And here is Kadir. He can dictate to his heart's content, but he can't start another war. He is as powerless as Napoleon was on his island.

"Well, when the last of our boys left, I promised to keep them in mind. And you heard my promise to help Kadir *out*. I am going to keep that promise, if it costs me my last snake."

THEY had reached the laboratory. Juan, the night-nurse for the reptiles, was going his rounds.

"Everything all right, Juan?" Beetle asked cordially.

He liked the phlegmatic Portuguese who always did his job with a minimum of talk. Consuelo, for her part, heartily disliked the man and distrusted him profoundly. She had long suspected him of being a stool-pigeon for Kadir.

"Yes, Dr. Beetle. Good night."

"Good night, Juan."

When Juan had departed, Consuelo returned to her attack.

"You haven't told me yet how you made these things taste like raw pork."

She strolled over to the tank by the north window where a luxuriant greenbeefo, like an overdeveloped tomato vine, grew rankly up its trellis to the ceiling. About half a dozen of the huge greenish "plums" still hung on the vine.

Consuelo plucked one and was thoughtfully sampling its quality.

"This one tastes all right," she said. "What did you do to the others?"

"SINCE you really want to know, I'll tell you. I took a hypodermic needle and shot them full of snake blood. My pet constrictor had enough juice in him to do the whole job without discomfort to himself or danger to his health."

Consuelo hurled her half-eaten fruit at her father's head, but missed. She stood wiping her lips with the back of her hand.

"So you can't change the chlorophyll in a growing plant into anything like haemoglobin? You almost had me believing you could."

"I never said I could. Nor can anybody else, so far as I know. But it made a good story to tell Kadir."

"But why?"

"If you care to analyze one of these greenbeefos in your spare time, you will find their magnesium content extraordinarily high. That is not accident, as you will discover if you analyze the chemicals in the tanks. I shall be satisfied if I can get Kadir and his friends to gorge themselves on greenbeefos when the new crop comes in. Now, did I sell Kadir the greenbeefo diet, or didn't I? You saw how they all fell for it. And they will keep on falling as long as the supply of snake blood holds out."

"There's certainly no scarcity of snakes in this charming country," Consuelo remarked. "I'm going to get

the taste of one of them out my mouth right now. Then you can tell me what you want me to do in this new culture of greenbeefos you've gone in for."

So father and daughter passed their days under the last dictatorship. Beetle announced that in another week the lush crop of greenbeefos would be ripe. Kadir proclaimed the following Thursday "Festal Thursday" as the feast day inaugurating "the reign of plenty" in Amazonia.

As a special favor, Beetle had requested Kadir to forbid any sightseeing or other interference with his work.

Kadir had readily agreed, and for three weeks Beetle had worked twenty hours a day, preparing the coming banquet with his own hands.

"You keep out of this," he had ordered Consuelo. "If there is any dirty work to be done, I'll do it myself. Your job is to keep the staff busy as usual, and see that nobody steals any of the fruit. I have given strict orders that nobody is to taste a greenbeefo till next Thursday, and Kadir has issued a proclamation to that effect. So if you catch anyone thieving, report to me at once."

The work of the native staff consisted in catching snakes. The workers could see but little sense in their job, as they knew that no venom was being exported. Moreover, the eccentric Doctor Beetle had urged them to bring in every reptile they found, harmless as well as poisonous, and he was constantly riding them to bestir themselves and collect more.

More extraordinary still, he insisted every morning that they carry away the preceding day's catch and dump it in the river. The discarded snakes, they noticed, seemed half dead. Even the naturally most vicious put up no fight when they were taken from the pens.

BETWEEN ten and eleven every morning Beetle absented himself from the laboratory, and forbade anyone to accompany him. When Consuelo asked him what he had in the small black satchel he carried with him on these mysterious trips, he replied briefly:

"A snake. I'm going to turn the poor brute loose."

And once, to prove his assertion, he opened the satchel and showed her the torpid snake.

"I must get some exercise, and I need to be alone," he explained, "or my nerves will snap. Please don't pester me."

She had not pestered him, although she doubted his explanation. Left alone for an hour, she methodically continued her daily inspection of the plants till her father returned, when she had her lunch and he resumed his private business.

On the Tuesday before Kadir's Festal Thursday, Consuelo did not see her father leave for his walk, as she was already busy with her inspection when he left. He had been gone about forty minutes when she discovered the first evidence of treachery.

The foliage of one vine had obviously been disturbed since the last inspection. Seeking the cause, Consuelo found that two of the ripening fruits had been carefully removed from their stems. Further search disclosed the theft of three dozen in all. Not more than two had been stolen from any one plant.

Suspecting Juan, whom she had always distrusted, Consuelo hastened back to her father's laboratory to await his return and report. There she was met by an unpleasant surprise.

She opened the door to find Kadir seated at Beetle's desk, his face heavy with anger and suspicion.

"Where is your father?"

"I don't know."

"Come, come. I have made women talk before this when they were inclined to be obstinate. Where is he?"

"Again I tell you I don't know. He always takes his exercise at this time, and he goes alone. Besides," she flashed, "what business is it of yours where he is?"

"As to that," Kadir replied carelessly, "everything in Amazonia is my business."

"My father and I are not citizens—

or subjects—of Amazonia."

"No. But your own country is several thousand miles away, Senhorina Beetle. In case of impertinent questions I can always report—with regrets, of course—that you both died by one of the accidents so common in Amazonia. Of snakebite, for instance."

"I see. But may I ask the reason for this sudden outburst?"

"So you have decided to talk? You will do as well as your father, perhaps better."

His eyes roved to one of the wire pens.

In it were half a dozen small red snakes.

"What do you need those for, now that you are no longer exporting venom?"

"Nothing much. Just pets, I suppose."

"Pets? Rather an unusual kind of pet, I should say." His face suddenly contorted in fear and rage. "Why is your father injecting snake blood into the unripe meat-fruit?" he shouted.

CONSUELO kept her head. "Who told you that absurdity?"

"Answer me!" he bellowed.

"How can I? If your question is nonsense, how can anybody answer it?"

"So you refuse. I know a way to make you talk. Unlock that pen."

"I haven't the key. My father trusts nobody but himself with the keys to the pens.

"No? Well, this will do." He picked up a heavy ruler and lurched over to the pen. In a few moments he had sprung the lock.

"Now you answer my question or I force your arm into that pen. When your father returns I shall tell him that someone had broken the lock, and that you had evidently been trying to repair it when you got bitten. He will have to believe me. You will be capable of speech for just about three minutes after one of those red beauties strikes. Once more, why did your father inject snake blood into the green meat-fruits?"

"And once more I repeat that you are asking nonsensical questions. Don't you dare—"

But he did dare. Ripping the sleeve of her smock from her arm, he gripped her bare wrist in his huge fist and began dragging her toward the pen. Her frantic resistance was no match for his brutal strength. Instinctively she resorted to the only defense left her. She let out a yell that must have carried half a mile.

Startled in spite of himself, Kadir paused, but only for an instant. She yelled again.

This time Kadir did not pause. Her hand was already in the pen when the door burst open. Punctual as usual, Beetle had returned exactly at eleven o'clock to resume his daily routine.

The black satchel dropped from his hand.

CHAPTER III

The Red Fungus

"WHAT the hell—" A well-aimed laboratory stool finished the sentence. It caught the Dictator squarely in the chest. Consuelo fell with him, but quickly disengaged herself and stood panting.

"You crazy fool," Beetle spat at the prostrate man. "What do you think you are doing? Don't you know that those snakes are the deadliest of the whole lot?"

Kadir got to his feet without replying and sat down heavily on Beetle's desk. Beetle stood eying him in disgust.

"Come on, let's have it. What were you trying to do to my daughter?"

"Make her talk," Kadir muttered thickly. "She wouldn't—"

"Oh, she wouldn't talk. I get it. Consuelo! You keep out of this. I'll take care of our friend. Now, Kadir, just what did you want her to talk about?"

Still dazed, Kadir blurted out the truth.

"Why are you injecting snake blood into the unripe meat-fruit?"

Beetle eyed him curiously. With great deliberation he placed a chair in front of the Dictator and sat down.

"Let us get this straight. You ask why I am injecting snake blood into the greenbeefos. Who told you I was?"

"Juan. He brought three dozen of the unripe fruits to show me."

"To show you what?" Beetle asked in deadly calm. Had that fool Juan brains enough to look for the puncture-marks made by the hypodermic needle?

"To show me that you are poisoning the fruit."

"And did he show you?"

"How should I know? He was still alive when I came over here. I forced him to eat all three dozen."

"You had to use force?"

"Naturally. Juan said the snake blood would poison him."

"Which just shows how ignorant Juan is." Beetle sighed his relief. "Snake blood is about as poisonous as cows' milk."

"Why are you injecting—"

"You believed what that ignorant fool told you? He must have been drinking again and seeing things. I've warned him before. This time he goes. That is, if he hasn't come to his senses and gone already of his own free will."

"Gone? But where could he go from here?"

"Into the forest, or the jungle," Beetle answered indifferently. "He might even try to drape his worthless hide over a raft of rotten logs and float down the river. Anyhow, he will disappear after having made such a fool of himself. Take my word for it, we shan't see Juan again in a month of Sundays."

"On the contrary," Kadir retorted with a crafty smile, "I think we shall see him again in a very few minutes." He glanced at the clock. It showed ten minutes past eleven. "I have been here a little over half an hour. Juan promised to meet me here. He found it rather difficult to walk after his meal. When he comes, we can go into the question of those injections more fully."

FOR an instant Beetle looked startled, but quickly recovered his composure.

"I suppose as you say, Juan is slow because he has three dozen of those unripe greenbeefos under his belt. In fact I shouldn't wonder if he were feeling rather unwell at this very moment."

"So there is a poison in the fruits?" Kadir snapped.

"A poison? Rubbish! How would you or anyone feel if you had been forced to eat three dozen enormous green apples, to say nothing of unripe greenbeefos? I'll stake my reputation against yours that Juan is hiding in the forest and being very sick right now. And I'll bet anything you like that nobody ever sees him again. By the way, do you know which road he was to follow you by? The one through the clearing, or the cut-off through the forest?"

"I told him to take the cut-off, so as to get here quicker."

(Turn Page)

"Fine. Let's go and meet him—only we shan't. As for what I saw when I opened that door, I'll forget it if you will. I know Consuelo has already forgotten it. We are all quarantined here together in Amazonia, and there's no sense in harboring grudges. We've got to live together."

Relieved at being able to save his face, Kadir responded with a generous promise.

"If we fail to find Juan, I will admit that you are right, and that Juan has been drinking."

"Nothing could be fairer. Come on, let's go."

Their way to the Dictator's "palace" —formerly the residence of the superintendent of the gold mines—lay through the tropical forest.

The road was already beginning to choke up in the gloomier stretches with a rank web of trailing plants feeling their way to the trees on either side, to swarm up their trunks and ultimately choke the life out of them. Kadir's followers, soldiers all and new to the tropics, were letting nature take its course. Another two years of incompetence would see the painstaking labor of the American engineers smothered in rank jungle.

Frequently the three were compelled to abandon the road and follow more open trails through the forest till they again emerged on the road. Dazzling patches of yellow sunlight all but blinded them temporarily as they crossed the occasional barren spots that seem to blight all tropical forests like a leprosy. Coming out suddenly into one of these blinding patches, Kadir, who happened to be leading, let out a curdling oath and halted as if he had been shot.

"What's the matter?" Consuelo asked breathlessly, hurrying to overtake him. Blinded by the glare she could not see what had stopped the Dictator.

"I stepped on it." Kadir's voice was hoarse with disgust and fear.

"Stepped on what?" Beetle demanded. "I can't see in this infernal light. Was it a snake?"

"I don't know," Kadir began hoarsely. "It moved under my foot. Ugh! I see it now. Look."

They peered at the spot Kadir indicated, but could see nothing. Then, as their eyes became accustomed to the glare, they saw the thing that Kadir had stepped on.

A foul red fungus, as thick as a man's arm and over a yard long, lay directly in the Dictator's path.

"A BLADDER full of blood and soft flesh," Kadir muttered, shaking with fright and revulsion. "And I stepped on it."

"Ro+!" Beetle exclaimed contemptuously, but there was a bitter glint in his eyes. "Pull yourself together, man. That's nothing but a fungus. If there's a drop of blood in it, I'll eat the whole thing."

"But it moved," Kadir expostulated.

"Nonsense. You stepped on it, and naturally it gave beneath your weight. Come on. You will never find Juan at this rate."

But Kadir refused to budge. Fascinated by the disgusting object at his feet, the Dictator stood staring down at it with fear and loathing in every line of his face.

Then, as if to prove the truth of his assertion, the thing did move, slowly, like a wounded eel. But, unlike an eel, it did not move in the direction of its length. It began to roll slowly over.

Beetle squatted, the better to follow the strange motion. If it was not the first time he had seen such a freak of nature, he succeeded in giving a very good imitation of a scientist observing a novel and totally unexpected phenomenon. Consuelo joined her father in his researches. Kadir remained standing.

"Is it going to roll completely over?" Consuelo asked with evident interest.

"I think not," Beetle hazarded. "In fact, I'll bet three to one it only gets halfway over. There—I told you so. Look, Kadir, your fungus is rotted to the spot, just like any other plant."

In spite of himself, Kadir stooped down and looked. As the fungus reached the halfway mark in its attempted roll, it shuddered along its

entire length and seemed to tug at the decayed vegetation. But shuddering and tugging got it nowhere. A thick band of fleshy rootlets, like coarse green hair, held it firmly to the ground. The sight of that futile struggle to move like a fully conscious thing was too much for Kadir's nerves.

"I am going to kill it," he muttered, leaping to his feet.

"How?" Beetle asked with a trace of contempt. "Fire is the only thing I know of to put a mess like that out of its misery—if it is in misery. For all I know, it may enjoy life. You can't kill it by smashing it or chopping it into mincemeat. Quite the contrary, in fact. Every piece of it will start a new fungus, and instead of one helpess blob rooted to the spot, you will have a whole colony. Better leave it alone Kadir, to get what it can out of existence in its own way. Why must men like you always be killing something?"

"It is hideous and—"

"And you are afraid of it? How would you like someone to treat you as you propose treating this harmless fungus?"

"If I were like that," Kadir burst out, "I should want somebody to put a torch to me."

"What if nobody knew that was what you wanted? Of if nobody cared? You have done some pretty foul things to a great many people in your time, I believe."

"But never anything like this!"

"Of course not. Nobody has ever done anything like this to anybody. So you didn't know how. What were you trying to do to my daughter an hour ago?"

"WE agreed to forget all that," Consuelo reminded him sharply.

"Sorry. My mistake. I apologize, Kadir. As a matter of scientific interest, this fungus is not at all uncommon."

"I never saw one like it before," Consuelo ojected.

"That is only because you don't go walking in the forest as I do," he reminded her. "Just to prove I'm right, I'll undertake to find a dozen rolling fungi within a hundred yards of here. What do you say?"

Before they could protest, he was hustling them out of the blinding glare into a black tunnel of the forest. Beetle seemed to know where he was going, for it was certain that his eyes were as dazed as theirs.

"Follow closely when you find your eyes," he called. "I'll go ahead. Look out for snakes. Ah, here's the first beauty! Blue and magenta, not red like Kadir's friend. Don't be prejudiced by its shape. Its color is all the beauty this poor thing has."

If anything, the shapeless mass of opalescent fungus blocking their path was more repulsive than the monstrosity that had stopped Kadir. This one was enormous, fully a yard in breadth and over five feet long. It lay sprawled over the rotting trunk of a fallen tree like a decomposing squid.

Yet, as Beetle insisted, its color was beautiful with an unnatural beauty. However, neither Consuelo nor Kadir could overcome their nausea at that living death. They fled precipitately back to the patch of sunlight. The fleshy magenta roots of the thing, straining impotently at the decaying wood which nourished them, were too suggestive of helpless suffering for endurance. Beetle followed at his leisure, chuckling to himself. His amusement drew a sharp reprimand from Consuelo.

"How can you be amused? That thing was in misery."

"Aren't we all?" he retorted lightly, and for the first time in her life Consuelo doubted the goodness of her father's heart.

They found no trace of Juan. By the time they reached the Dictator's palace, Kadir was ready to agree to anything. He was a badly frightened man.

"You were right," he admitted to Beetle. "Juan was lying, and has cleared out. I apologize."

"No need to apologize," Beetle reassured him cordially. "I knew Juan was lying."

"Please honor me by staying to lunch," Kadir begged. "You cannot? Then I shall go and lie down."

They left him to recover his nerve, and walked back to the laboratory by the long road, not through the forest. They had gone over halfway before either spoke. When Beetle broke the long silence, he was more serious than Consuelo ever remembered him having been.

CHAPTER IV

The Torch

"HAVE you ever noticed," he began, "what arrant cowards all brutal men are?" She made no reply, and he continued. "Take Kadir, for instance. He and his gang have tortured and killed thousands. You saw how that harmless fungus upset him. Frightened half to death of nothing."

"Are you sure it was nothing?"

He gave her a strange look, and she walked rapidly ahead. "Wait," he called, slightly out of breath.

Breaking into a trot, he overtook her.

"I have something to say that I want you to remember. If anything should ever happen to me—I'm always handling those poisonous snakes—I want you to do at once what I tell you now. You can trust Felipe."

Felipe was the Portuguese foreman of the native workers.

"Go to him and tell him you are ready. He will understand. I prepared for this two years ago, when Kadir moved in. Before they left, the engineers built a navigable raft. Felipe knows where it is hidden. It is fully provisioned. A crew of six native river men is ready to put off at a moment's notice. They will be under Felipe's orders. The journey down the river will be long and dangerous, but with that crew you will make it. Anyhow, you will not be turned back by the quarantine officers when you do sight civilization. There is a flag with the provisions. Hoist it when you see any signs of civilization, and you will not be blown out of the water. That's all."

"Why are you telling me this now?"

"Because dictators never take their own medicine before they make someone else taste it for them."

"What do you mean?" she asked in sudden panic.

"Only that I suspect Kadir of planning to give me a dose of his peculiar brand of medicine the moment he is through with me. When he and his crew find out how to propogate the greenbeefos, I may be bitten by a snake. He was trying something like that on you, wasn't he?"

She gave him a long doubtful look. "Perhaps," she admitted. She was sure that there was more in his mind than he had told her.

They entered the laboratory and went about their business without another word. To recover lost time, Consuelo worked later than usual. Her task was the preparation of the liquid made up by Beetle's formula, in which the greenbeefos were grown.

She was just adding a minute trace of chloride of gold to the last batch when a timid rap on the door of the chemical laboratory startled her unreasonably. She had been worrying about her father.

"Come in," she called.

Felipe entered. The sight of his serious face gave her a sickening shock. What had happened? Felipe was carrying the familiar black satchel which Beetle always took with him on his solitary walks in the forest.

"What is it?" she stammered.

FOR answer Felipe opened his free hand and showed her a cheap watch. It was tarnished greenish blue with what looked like dried fungus.

"Juan's," he said. "When Juan did not report for work this afternoon, I went to look for him."

"And you found his watch? Where?"

"On the cut-off through the forest."

"Did you find anything else?"

"Nothing belonging to Juan."

"But you found something else?"

"Yes. I had never seen anything like them before."

He placed the satchel on the table and opened it.

"Look. Dozens like that one, all colors, in the forest. Doctor Beetle forgot to empty this bag when he went into the forest this morning."

She stared in speechless horror at the swollen monstrosity filling the satchel. The thing was like the one that Kadir had stepped on, except that it was not red but blue and magenta. The obvious explanation flashed through her mind, and she struggled to convince herself that it was true.

"You are mistaken," she said slowly. "Doctor Beetle threw the snake away as usual and brought this specimen back to study."

Felipe shook his head.

"No, Senhorina Beetle. As I always do when the Doctor comes back from his walk, I laid out everything ready for tomorrow. The snake was in the bag at twelve o'clock this morning. He came back at his regular time. I was busy then, and did not get to his laboratory till noon. The bag had been dropped by the door. I opened it, to see if everything was all right. The snake was still there. All its underside had turned to hard blue jelly. The back was still a snake's back, covered with scales. The head had turned green, but it was still a snake's head. I took the bag into my room and watched the snake till I went to look for Juan. The snake turned into this. I thought I should tell you."

"Thank you, Felipe. It is all right; just one of my father's scientific experiments. I understand. Goodnight, and thank you again for telling me. Please don't tell anyone else. Throw that thing away and put the bag in its usual place."

Left to herself, Consuelo tried not to credit her reason and the evidence of her senses. Then inconsequential remarks her father had dropped in the past two years, added to the remark of today that dictators were never the first to take their own medicine, stole into her memory to cause her acute uneasiness.

What was the meaning of this new technique of his, the addition of a slight trace of chloride of gold to the solution? He had talked excitedly of some organic compound of gold being the catalyst he had sought for months to speed up the chemical change in the ripening fruit.

"What might have taken months the old way," he had exclaimed, "can now be done in hours. I've got it at last!"

What, exactly, had he got? He had not confided in her. All he asked of her was to see that the exact amount of chloride of gold which he prescribed was added to the solutions. Everything she remembered now fitted into its sinister place in one sombre pattern.

"This must be stopped," she thought.

It must be stopped, yes. But how?

THE next day the banquet took place.

"Festal Thursday" slipped into the past, as the long shadows crept over the banquet tables—crude boards on trestles—spread in the open air. For one happy, gluttonous hour the bearers of the "New Freedom" to a benighted continent had stuffed themselves with a food that looked like green fruit but tasted like raw pork. Now they were replete and somewhat dazed.

A few were furtively mopping the perspiration from their foreheads, and all were beginning to show the sickly pallor of the gourmand who has overestimated his capacity for food. The eyes of some were beginning to wander strangely. These obviously unhappy guests appeared to be slightly drunk.

Kadir's speech eulogizing Beetle and his work was unexpectedly short. The Dictator's famous gift for oratory seemed to desert him, and he sat down somewhat suddenly, as if he were feeling unwell. Beetle rose to reply.

"Senhor Kadir! Guests, and bearers to Amazonia of the New Freedom, I salute you! In the name of a freedom you have never known, I salute you, as the gladiators of ancient Rome saluted their tyrant before marching

into the arena where they were to be butchered for his entertainment."

Their eyes stared up at him, only half-seeing. What was he saying? It all sounded like the beginning of a dream.

"With my own hands I prepared your feast, and my hands alone spread the banquet tables with the meat-fruits you have eaten. Only one human being here has eaten the fruit as nature made it, and not as I remade it. My daughter has not eaten what you have eaten. The cold, wet taste of the snake blood which you have mistaken for the flavor of swine-flesh, and which you have enjoyed, would have nauseated her. So I gave her uncontaminated fruit for her share of our feast."

Kadir and Consuelo were on their feet together, Kadir cursing incoherently, Consuelo speechless with fear. What insane thing had her father done? Had he too eaten of— But he must have, else Kadir would not have touched the fruit!

Beetle's voice rose above the Dictator's, shouting him down.

"Yes, you were right when you accused me of injecting snake blood into the fruit. Juan did not lie to you. But the snake blood is not what is making you begin to feel like a vegetable. I injected the blood into the fruit only to delude all you fools into mistaking it for flesh. I anticipated months of feeding before I could make of you what *should* be made of you.

"A month ago I was relying on the slow processes of nature to destroy you with my help. Light alone, that regulates the chemistry of the growing plant and to a lesser degree the chemistry of animals, would have done what must be done to rid Amazonia and the world of the threat of your New Freedom, and to make you expiate your brutal past.

"But light would have taken months to bring about the necessary *replacement of the iron in your blood by magnesium.* It would have been a slow transformation, almost, I might say, a lingering death. By feeding you green beef I could keep your bodies full at all times with magnesium in chemically available form to *replace every atom of iron in your blood!*

"UNDER the slow action of photosynthesis—the chemical transformations induced by exposure to light—you would have suffered a lingering illness. You would not have died. No! You would have lived, but not as animals. Perhaps not even as degenerated vegetables, but as some new form of life between plant and the animal. You might even have retained your memories.

"But I have spared you this—so far as I can prophesy. You will live, but you will not remember—much. Instead of walking forward like human beings, you will roll. That will be your memory.

"Three weeks ago I discovered the organic catalyst to hasten the replacement of the iron in your blood by magnesium and thus to change your animal blood to plant blood, chlorophyll. The catalyst is merely a chemical compound which accelerates chemical reactions without itself being changed.

"By injecting a minute trace of chloride of gold into the fruits, I—and the living plant—produced the necessary catalyst. I have not yet had time to analyze it and determine its exact composition. Nor do I expect to have time. For I have perforce, taken the same medicine that I prescribed for you!

"Not so much, but enough. I shall remain a thinking animal a little longer than the rest of you. That is the only unfair advantage I have taken. Before the sun sets we shall all have ceased to be human beings, or even animals."

Consuelo was tugging frantically at his arm, but he brushed her aside. He spoke to her in hurried jerks as if racing against time.

"I did not lie to you when I told you I could *not* change the chlorophyll in a living plant into haemoglobin. Nobody has done that. But did I ever say I could not change *the haemoglobin in a living animal into chloro-*

phyll? If I have not done that, I have done something very close to it. Look at Kadir, and see for yourself. Let go my arm—I must finish."

Wrenching himself free he began shouting against time.

"Kadir! I salute you. Raise your right hand and return the salute."

Kadir's right hand was resting on the bare boards of the table. If he understood what Beetle said, he refused to salute. But possibly understanding was already beyond him. The blood seemed to have ebbed from the blue flesh, and the coarse hairs on the back of the hand had lengthened perceptibly even while Beetle was demanding a salute.

"Rooted to the spot, Kadir! You are taking root already. And so are the rest of you. Try to stand up like human beings! Kadir! Do you hear me? Remember that blue fungus we saw in the forest? I have good reason for believing that was your friend Juan. In less than an hour you and I and all these fools will be exactly like him, except that some of us will be blue, others green, and still others red—like the thing you stepped on.

"It rolled. Remember, Kadir? That red abomination was one of my pet fungus snakes—shot full of salts of magnesium and the catalyst I extracted from the fruits. A triumph of science. I am the greatest biochemist that ever lived! But I shan't roll farther than the rest of you. We shall all roll together—or try to. 'Merrily we roll along, roll along'—I can see already you are going to be a blue and magenta mess like your friend Juan."

BEETLE laughed harshly and bared his right arm. "I'm going to be red, like the thing you stepped on, Kadir. But I've stepped on the lot of you!"

He collapsed across the table and lay still. No sane human being could have stayed to witness the end. Half mad herself, Consuelo ran from the place of living death.

"Felipe, Felipe! Boards, wood—bring dry boards, quick, quick! Tear down the buildings and pile them up over the tables. Get all the men, get them all!"

Four hours later she was racing down the river through the night with Felipe and his crew. Only once did she glance back. The flames which she herself had kindled flapped against the black sky.

●

Next Issue

RACE AROUND THE MOON

A Complete Novel of Lunar Conquest

By OTIS ADELBERT KLINE

Fred Jorgeson, the Human Fly, Could Scale Anything—
Even the Walls of Time!

He inserted the needle and sent the plunger home

STOLEN CENTURIES

By OTIS ADELBERT KLINE

Author of "The Iron World," "The Planet of Peril," etc.

BLEARY-EYED and unkempt, with a three days' growth of beard covering his lean jowls, his threadbare suit unpressed and baggy, Fred "Fly" Jorgeson shuffled to the park bench, sat down heavily, and sighed dejectedly.

Jorgeson had seen better days—much better. For years he had made a splendid living with his "Human Fly" act, climbing the sides of skyscrapers as an advertising stunt while crowds gaped, watching for him to fall.

He had never fallen, but others of his profession had, and finally the authorities everywhere had prohibited such exhibitions. No more Human Fly acts would be permitted. Ergo, Fly Jorgeson, as he was called everywhere, was suddenly without the highly paid jobs and the adulation of the crowds which had been the breath of life to him.

He had never saved his money, had learned no other trade or profession, and with millions of trained men jobless, he found it impossible to get

work. He soon found himself flat broke.

He then took to panhandling, usually getting enough nickels and dimes in a day for his food and a cheap flop.

His last dime was now gone. Soon he must leave the languid comfort of the park bench and resume his panhandling, in order to obtain the food and the flop house bunk that would see him through the night.

A discarded newspaper lay on the bench beside him, and picking it up, he glanced idly through the "Help Wanted" columns of the classified section. Suddenly, a small ad caught and held his attention:

> WANTED: Experienced mountain climber. Easy work. Excellent pay. Applicants call in person, 1332 Poinsetta Drive, and ask for Professor Hartwell.

Jorgeson frowned and considered. That address would be at least a five mile walk from where he sat. But didn't he walk a good fifteen to twenty miles a day, anyway? And the panhandling might even be better out Poinsetta way, whether he landed the job or not.

He tore the ad from the paper, thrust it into his coat pocket, lurched to his feet, and slouched off on his way.

1332 Poinsetta Drive was a typical California bungalow, set in a spacious grounds, dotted with trees and surrounded by a high, woven wire fence.

JORGESON stood for a moment, peering through the wire meshes of the gate, trying to gather courage to enter. He was painfully conscious of his unshaven, unkempt appearance. For a moment, he was tempted to turn away and give up the quest.

Then he saw a white-haired, bespectacled man of about his own size and build emerge from a side door and walk out into the yard. He made a queer, clucking noise, and a squirrel came scampering down the nearest tree, then ran toward him and halted with bushy tail arched.

The man produced an acorn from a bulging coat pocket, and handed it to the squirrel, which sat there on its haunches, nibbling and jerking its tail. It was soon followed by another and another, until no less than a dozen squirrels surrounded the old man.

This sight decided Jorgeson. Undoubtedly, this was Professor Hartwell. A man who was kind to animals would also be likely to be kind to a fellow human being in distress. The Fly opened the gate and entered.

The squirrels scampered away at his approach. The old man rose to his feet, rattling the acorns in his pocket as he appraised the Fly with keen gray eyes that looked out through his gold-rimmed glasses from beneath bushy white brows.

"Well, what can I do for you?" he asked crisply.

"I've come in answer to your ad in today's paper," Jorgeson replied.

"You are an experienced mountain climber?" the old man asked.

"I can climb anything that's climbable," Jorgeson responded.

The professor considered, stroking his chin as he looked the Fly over from head to foot.

"Hm-m. Your appearance isn't particularly prepossessing—but you're my only applicant, thus far. There must be a dearth of unemployed mountain climbers in these parts. Are you strong?"

"My muscles are still hard, and my wind is still good. Feel."

Jorgeson flexed a biceps, and the professor thumbed it for a moment. Then he poked his back, leg and abdominal muscles.

"Pretty fair, at that," he said. "I guess you'll be able to make it. You are hired for two days. The pay, when you've completed the job, will be one thousand dollars. Satisfactory?"

Jorgeson gulped in surprise, and nodded, too astounded for words.

"Good. Then come with me. I'll fix you up with a shave, a bath, a square meal, and some clothing and shoes. You and I are about the same size, and I believe my spare outfit will fit you. Come along."

Jorgeson followed the professor

into the house, and through a long room that was fitted up as a laboratory, with an imposing array of test-tubes, microscopes, cages of fruit flies, guinea pigs, and the usual paraphernalia of the biochemist, then down a hallway and into a tiled bathroom.

An hour later, bathed, shaved, fed and wearing a pair of his employer's whipcords, with high-laced, hobnailed boots, flannel shirt, and leather windbreaker, the Fly felt like a new man as he helped the professor load the luggage into the tonneau of a large, powerful sedan.

They sped away, heading for the mountains. Jorgeson grew quite curious about this mysterious trip. However, the professor was not communicative. Presently they turned off the paved highway, and took to a rutted dirt road, which circled steeply upward through the trees. This was succeeded after several miles by a little used "stump" road cut through the timber.

THIS road came to a sudden end at the base of a steep cliff, which was almost perpendicular. The professor climbed out stiffly, and Jorgeson got out on his side, flexing his muscles, numbed by the long ride.

"Think you can climb that with a load on your back?" asked the professor, nodding toward the cliff.

"For me, climbing that will be like taking candy from a baby," the Fly replied, with a grin.

"Good. We'll camp here for the night, then tackle it the first thing in the morning. But now we eat."

Jorgeson's eyes bulged as he turned and saw the elaborate array of cans, parcels and bottles the professor was setting out on the checkered oil cloth he had spread on the ground. The old man, noting his look of astonishment, smiled slightly.

"This is to be my last dinner for a long time. Also, it is a celebration of the culmination of a lifetime of labor and research."

"Looks like a banquet, to me," said the Fly.

"Let us make it a banquet—for two," the professor replied. "We'll eat, drink and be merry, for tomorrow—" he paused for a moment, as if he had been about to say something he wished to conceal—"for tomorrow we part forever!" he finished.

Jorgeson joined in the preparations with gusto—and in the feast that followed. They washed down their caviar and anchovies with a fifth of sherry. Their green turtle soup with a quart of sauterne. A bottle of Burgundy blended perfectly with their thick steaks, smothered in mushrooms. And another of Pedro Domigue, 1882, flamed blue above their *crepes suzettes* and topped off their *café cognac*.

The Fly was in a roseate glow. The professor grew talkative, even boastful.

"I supose you've been wondering what all this is about, Jorgeson," he said. "Wasn't going to tell you at first, but hell, you're a good fellow, and have turned out to be a real pal, helping me celebrate and everything, so why shouldn't I tell you? I've got everything fixed, so there's nothing you or any one else can do about it, anyhow."

The professor paused, drew a deep breath.

"Do you realize that you are the last man I am going to see for three centuries! Picture that, Jorgeson. In three hundred years I'll be alive, just as I am today, ready to step into a new world—the hero of the hour—with historical knowledge that will have been long forgotten."

The Fly looked at him skeptically, as he mixed himself another coffee and brandy, half and half.

"I see you don't believe me," said the professor, reaching for the brandy bottle as Jorgeson put it down. "But it's a fact, nevertheless."

He took a small leather case from his breast pocket. Opening it, he revealed a hypodermic syringe on one side, a small brown bottle on the other.

"See that bottle?" he asked. "Elixir of life, that's what it is. Temporary immortality in a bottle. Tomorrow I'll shoot that into my arm—go to sleep for three centuries, and wake up, alive and well."

"How do you know you can do all

this?" asked Jorgeson, interested in spite of his skepticism.

"Experiments. Thousands of them. Mediterranean fruit flies, guinea pigs, monkeys, white mice. Proper dosage puts any of them into a state of suspended animation for four of their normal lifetimes. And they wake up at the proper time—depending on the dosage and the weight of the animal—carrying on from where they left off, and living out the balance of their lives as if nothing had happened. Talk about Rip Van Winkle! What was supposed to happen to him could really happen to any one—except the aging process—with my serum."

"BUT how do you know what might happen to your body while you're sleeping? Cold, storms, attacks of animals—how can you survive these?"

"Simple. All taken care of. I've got a vault all built—airtight, insulated against outside temperatures, prevents dehydration, freezing or overheating. Air conditioning apparatus that will start up as soon as I move and have to breathe again. Man, didn't I tell you I've been preparing this for a lifetime?"

"But how will you be able to get out of the vault? I suppose there will be a thick, heavy door. What if you are too weak to move it when you awaken?"

"Just a matter of perfect timing. The door will open automatically at the right time. In fact, I've made it so it can't be opened any other way—to keep out possible vandals. Know anything about the equinoxes?"

The Fly harked back. After all, he had had an education.

"Very little. Studied it in school. They shift periodically, don't they?"

"Precisely. And what effect does that have on the stars in the northern heavens? Right now, Polaris is the North Star. But do you know that about in the year B. C. 3,000, Alpha Draconis was the pole star, and that some 12,000 years from now Vega will occupy that position?

"Man, the movements of the Earth around the sun and on its axis, despite the slight polar wobble, can be more safely depended on over a period of years, than the most precise and efficient instruments invented by man."

"But, I don't see—"

"I'll explain. I've a tube shaped like a telescope trained on the northern sky in a certain direction. Beneath it, is a composite and extremely complicated device of my own invention, protected by a small dome of quartz, and operating like a photo-electric cell, but with this difference. It doesn't respond every time light strikes it. There must be a special *combination* of light rays—a combination of certain pinpoints of light, in short, agreeing precisely, not with the stars which are shining in that tube tonight, but with those which *will* shine into it *three centuries hence*, when the Earth has shifted its position relative to the siderial system."

"And then what happens?"

"Simple enough. It will work just like the time lock on a safe. The mechanism for opening the door is set in motion—the door swings open."

"Not so simple," the Fly disagreed. "What if it should be a cloudy night?"

"That's provided for also. There will be enough food, water and air in the vault to last ninety days. The chances are millions to one that there will be at least one clear night during that period. And only one will be required for my purpose."

At this point, Jorgeson noted that the professor's head was beginning to nod. A moment later, he rose, mumbling something about bedtime, and retired to his mattress.

For a long time the Fly lay awake, looking up at the gleaming stars, and thinking.

If only *he* could get that bottle of serum—immure himself in the vault. He was a misfit in this generation. All of his chances had vanished. True, he would have a thousand dollars tomorrow, but he knew himself too well to believe he would have it long. There would be a spree of spending, and within a month at the most he would be back on the street panhandling.

But if he could wake up in a new world three centuries hence—a world in which he could emerge as a hero, the center of attraction, the wonder of all time, a man who had remained in a state of suspended animation for three centuries—what a chance there would be for him to live as he had lived in the good old days—or even better.

As for that old codger snoring across from him, what good would it do him to traverse the gap of three centuries? Why, he must be at least sixty-five years old—with one foot in the grave. He would totter into it a few years after he woke up. But the Fly, a man of thirty, could look forward to perhaps a half century of life.

Thinking along these lines, and trying to evolve some scheme that would enable him to take the place of the professor, he presently fell asleep.

JORGESON woke with a hangover. The professor, however, showed no signs of his celebration; he was as businesslike and taciturn as if nothing had happened. He dosed the Fly with aspirin and black coffee, and, after they had had their bacon and eggs, they loaded the equipment which the professor wished to move up to his vault, on their backs. They bound themselves together with a twenty-foot length of rope, and taking up their alpenstocks, began their climb up the steep slope.

To the Fly, accustomed to supporting himself for long stretches on the side of a building, the climb was ridiculously easy. The professor, though surprisingly strong and agile for an old man, could not have made it without help.

After a climb that took them well into mid-morning, they reached a ledge about two feet in width. Above this ledge, the cliff towered, as sheer and straight as the side of a building, for about a hundred feet. The Fly wondered how he was going to be able to get the old man up that wall. Then he noticed a knotted rope with a hook at the end, dangling within easy reach from the top of the cliff.

The professor unstrapped his pack and lowered it to the ledge. Then he fastened it to the hook in the end of the rope, and went up, hand over hand, with surprising ease for a man of his age. Jorgeson decided that he must have made this trip many times before—perhaps alone, perhaps with others to accompany him as far as the ledge. Obviously, he must have moved a great many heavy things to the cliff top during the time when he was building his vault.

Tilting his head far back, the Fly saw the old man crawl over the edge of the cliff. A moment later, he began pulling up the pack he had hooked on the end of the rope. Once he had it on the cliff top, he dropped the rope again.

"Take off your pack and fasten it on the hook," he ordered.

Jorgeson complied, and watched Hartwell draw up the second pack. To the surprise of the Fly, he did not drop the rope again. Instead, he held a leather wallet out over the edge and dropping it, said:

"Catch."

The Fly caught it, and opening it, found within ten crisp one hundred dollar bills.

He looked up, and saw that the old man was watching him.

"Your job is over, and that's your pay," he said. "From here, I carry on alone. You know something I had intended no man of this generation to know. But, before any one can get here, I'll be sealed in my vault, which is well camouflaged. I wouldn't advise you to try to find it. And don't try to drive the car back to town. I smashed the carburetor, this morning. Take it off, walk back to town, and buy a new one. Then you can come back and drive the car away. It is yours, with everything in it."

He drew back out of sight without a word of farewell, and Jorgeson, after standing and staring until his neck ached, realized that he had gone for good. What should he do now? Should he return to his world, the owner of a car and a thousand dollars, to tell a strange, incredible story which no one would believe? Or should he try to steal this coveted spanning of the centuries for himself?

Meet Otis Adelbert Kline

Otis Adelbert Kline

OTIS ADELBERT KLINE was born in Chicago, July 1, 1891. There were so many firecrackers popping that at first he thought they were celebrating his birthday!

At ten, fond relatives predicted that he would be a great artist, and an instructor was provided. But at twelve, he took to the piano, abandoning the brush and easel, and became a composer and song writer, which brought him into Tin Pan Alley at nineteen, first as a song writer and song plugger, and later as a music publisher. After writing several photoplay scenarios, he entered the realm of fiction writing.

He wrote stories of all types, detective, western, adventure, romance, etc., but chiefly fantasy and science fiction. His stories have appeared in virtually all of the leading magazines which use science fiction or fantasy in this country, as well as in Canada, England and Continental Europe.

He likes fishing, hunting, hiking, swimming and boating. Gets a kick out of cooking exotic dishes—Hindu curry, sukiyaki, Italian spaghetti, and others, to be washed down with suitable beverages.

A crafty gleam came into his eyes. He was glad, now, that he had not told the old man he was the Human Fly. The old buzzard might have taken other precautions. But he would never suspect that he could climb that cliff with ease.

FIFTEEN minutes later, the Fly was peering cautiously above the edge of the cliff. The coil of knotted rope was lying where the old man had left it, but the two packs were gone, and the professor was not in sight.

The Fly found himself on a flat-topped pinnacle, strewn with boulders, and cut by arroyos in which sparse vegetation grew. The professor had chosen well in selecting this retreat. No plane could land here, and no ordinary mountain climber would be likely to negotiate the steep cliffs that surrounded the pinnacle. Only a Human Fly could make it without the aid of a rope or a long ladder.

A brief search revealed a well-defined path. He followed it quietly and cautiously.

Presently, he heard the sound of hammering just ahead of him. He parted the bushes and peered through. There before him was the professor, standing in front of the open door of his vault, knocking the crate from a machine which, a moment later, he carried inside and bolted in place.

The machine in place, the professor took the leather case from his pocket, and from it removed the syringe and bottle of serum. He filled the syringe, then began to roll up his sleeve.

It was now or never for Jorgeson. Catching up a heavy stone, he bounded noiselessly forward.

The old man turned, apparently about to close the vault door before injecting the serum. He caught sight of his assailant for an instant—then the heavy rock came down on his skull crushing it like an egg shell.

The Fly snatched the syringe as Hartwell slumped to the floor, dead.

Flinging the rock out into the bushes, he grasped the old man's collar, and dragged the limp body out through the door. For a moment, he thought of burying it. Then he remembered that this would take time, and that the professor had told him everything had been timed, almost to the minute. He must close the door and take the serum now if he wished to wake up at the proper time. It should affect him exactly as it would have the professor, because he was of the same size and build, and almost the same weight.

He sprang inside the vault and swung the heavy door shut after him. The locking bars fell into place. There was, he observed, a port hole in the north side, filled with heavy glass to admit light only. The unlocking mechanism was invisible to him—must be fastened somewhere outside—would have to be, as a matter of fact, to catch the starlight.

For a moment panic seized him as he realized that the mechanism would not open the door for three hundred years. He rushed to the door, wrenched at the handle, determined to give up the whole idea, and flee. But it would not budge. The professor had told the truth. It could only be opened by the mechanism. And it

would not open for three hundred years. He *had* to take the serum, now, or die like a rat in a trap.

There was a low cot at the back of the room. He sat down on this and bared his arm. Then he closed his eyes, inserted the needle, and sent the plunger home. His head reeled dizzily as he flung the empty syringe from him and sank back on the cot. Then came oblivion.

GRADUALLY, consciousness returned to Jorgeson. He opened his eyes and looked about him for a moment before he remembered where he was. It did not seem that more than five minutes had elapsed since he had sunk back upon the cot, unconscious. That serum was a fraud. But was it?

By the reflected sunlight that came through the port hole, he was able to see everything in the room, even though he was so weak he could scarcely lift his hand. Presently, he moved an arm, raised it above his head. Something gray and fluffy fell away from it—something which had once been a woolen sleeve, but now was nothing but dust and lint.

He raised a foot. The remains of his whipcord trousers floated away in the tiny air current the movement had caused. The high-laced boot crumbled to powder.

Presently, he managed to sit up, and found himself as naked as the day he was born. The bedding on the cot had turned to dust and lint. Only the seasoned wooden frame and slats remained. Even the springs had rusted completely away.

He staggered to his feet and made his way to the provision compartments. Eagerly he gulped water—then broke the seal of a food jar and filled his empty stomach.

Having drunk and eaten, he felt stronger. It was true! It was true! He had survived for three centuries. The professor had planned well, and he was to reap the fruits of that endless planning and toil. Soon the stars would open the door for him and he could walk out into a strange, new world.

He went to the port hole and looked out. To his surprise, he was unable to see the northern sky. Yet it had been plainly visible through the port-hole when he had first entered the cave. Instead of the sky, he now saw a solid mass of rustling leaves—oak leaves.

Why, what could this mean? There had been no oak tree there when he went to sleep. Standing on tiptoe, he peered downward. Yes, a mighty oak stood there, rooted before the door. And the scattered remains of a human skeleton lay among its gnarled roots.

A human skull grinned up at him—a skull that had been crushed in on one side.

It was the skull of Professor Hartwell grinning up at him! Why was it grinning? Well, all skulls grinned. But this one had a particularly malicious grin—as if some dark secret were about to be revealed. What was this secret?

Obviously, oak trees came from acorns. And the professor, he remembered, habitually carried acorns in his pockets—for the squirrels. So, by throwing the body of the professor in front of the door, he, himself, had planted the oak tree. The body had protected and fertilized the sprouting acorn.

But what of that? Something in the back of Jorgeson's mind seemed to be trying to get a message through—a warning of impending disaster.

Then, suddenly, he *knew*.

The oak tree standing there meant his doom. No starlight could penetrate through those thick leaves in the right combination to open the door of the vault. He could not open it himself. And he could not get out through the small, eight-inch port hole.

He had exactly ninety days to live—ninety days of hell. Never would he be able to see the new world of his hopes and dreams.

He picked up the food jar he had just emptied and shattered it on the floor. Then, taking up a jagged fragment, he slashed his wrists, and watched his life blood drip on the floor until consciousness left him once more—but this time forever.

The Story of the Cover

By RAY CUMMINGS

PIONEER OF SCIENTIFICTION—AUTHOR OF "THE GIRL IN THE GOLDEN ATOM" AND THE CREATOR OF "TUBBY"

SCIENCE fiction stories are the easiest to write—and the most difficult! That's a paradoxical statement to make, particularly to an audience of scientifically inclined men and women. Yet it's a truth illustrated by the cover conceived by Artist Brown for the Tenth Anniversary Issue of THRILLING WONDER STORIES.

Science fiction is simple to write, mainly because an author's chief stock of trade in this variety of fiction is—his imagination. A science fiction writer knows no boundaries; the Universe is his oyster. If he can't think of an interesting situation on this world, the speed of light can take him a million miles away to some uncharted galaxy. If that won't do, simple concentration will offer the fourth dimension as a background. The author is certain to get an idea somewhere, if he has to delve into the most indivisible particle of atomic matter, or explore the outermost infinities of remote space.

And this vital stock in trade—the application of one's imagination—often produces incredible results. This month's cover is a distinct case in point. It is my contention that at least a dozen intriguing interpretations can be offered for the scene it represents. I have one version of it which I think is interesting enough to serve as the basis for a story to be written in the near future. But I'm convinced that this same scene can inspire a number of widely varied stories, each as different in similarity as the colors in the spectrum.

Ray Cummings

For example, might not the two alien creatures operating the modernistic motion picture camera be two supermen of the future? The two men in the cage, ostensibly explorers, have penetrated into the future, centuries hence, via a time-machine. Apparently, the two strange creatures are immune to the explorer's gun. Evidently, then, the curious discs on the chests of the two creatures serve as the generator of some neutralizing field of force. So here we have the basis for a time-traveling story. . . .

Then again, isn't it equally as possible that the two Earthmen are interplanetary voyagers, that they have landed on some foreign planet? Eventually comes their apprehension by the denizens of this strange, new world—then swift capture. Are they to be photographed for the newsreel audiences of Mars? Do the Martians regard these men in the same detached manner that we study animals in the zoo? So begins an interplanetary theme, if you will. . . .

Another logical interpretation that suggests itself is that the two Earthmen, members of an archaelogical expedition, have come upon the remnants of a Lost World—a domain unknown to present-day civilization. Might not the two red-skinned aliens be the descendants of the legendary Atlantis? Or perhaps they are the survivors of a race from another Solar System, who have migrated to Earth in mighty space cruisers, settled in some rarely frequented locale, and are planning to overthrow humanity, wrest our globe for themselves. They would first examine man, learn his weaknesses, his immunity to certain rays, gases, etc.

You see? The possibilities of one dramatic situation are almost interminable. And if any of you readers have some original ideas about this cover, I would like to hear about it, care of THE READER SPEAKS. And I'm certain they will be new and startling.

But don't forget. I also said that science fiction stories are the hardest to write. Hardest because you've got to enforce the laws of science. If you decide that the two entities are survivors of Atlantis, then you are compelled to explain scientifically why the two evolved in the strange biological fashion that they did. Why the long, sinuous, tapering hands? If you think a time-traveling story would be best, you must conjure some logical means for projecting your heroes into the future. And you must explain why the present and the future can be co-existent.

Should an interplanetary background appeal most to you for the contemplated story, then you will have to uncover your typewriter and devise some foolproof means of transportation for your central characters.

You must tell how various scientific obstacles that confront space voyagers will be hurdled—the hazards of cosmic rays, meteors, gravitation, solar heat. . . .

Wait a minute. *I've* got to write this story. And I've got to stick to the rules. Tubby, my fourth-dimensional thinking-cap!

THE MAN WITHOUT A WORLD

A Complete Novelet of the Ark of Space

By John Coleman Burroughs and Hulbert Burroughs

CHAPTER I

Rodent Peril

IT might have been a reading room in a public library except that the walls were of satiny metal and there were no windows. Indirect, cold light illumined the entire chamber in such a manner that no obscuring shadows were cast. Silent ventilator registers purified the air with a draft that contained precisely the correct amount of warmth and humidity for the comfortable sustenance of human life.

As a matter of fact, it was a little-used section of the central library of *Arkadia,* the great Ark of Space which had been hurtling through the Universe for approximately one hundred and ninety-five years. The oncoming generations had lost all interest in the dry history of nations and of individual men prior to the Great Exodus. There was so much else to do—performing the innumerable tasks assigned to each person and keeping up with the science of today as propounded and furthered by the savants in the educational chambers.

A single person sat here diligently poring over an ancient volume with its chemically treated pages and flexible metal binding which resisted the ravages of time. Malcomb Mandark, dark-haired and broad-shouldered son of the commander-in-chief of the *Arkadia,* was the only one of his generation who found vivid interest in the perusal of lives and exploits of great men in the dim past on an Earth he

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Mal spun the wheel. "Those flashes are gigantic bolts of lightning"

had never known. A sheer waste of time and intelligence quotient, his colleagues jokingly termed his obsession. What could dry and musty history of a dead past teach these argonauts of space who faced an unbelievably and startlingly strange future!

The visi-screen on the table before young Mandark came to life with a musical chime and a soft glow. Instantly he looked up and flipped a

Uncharted Space-Trails to Nova Terra!

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The visi-screen on the table before young Mandark came to life with a musical chime and a soft glow. Instantly he looked up and flipped a

toggle switch. At once the lovely face of Valia Burtis flashed into view and smiled at him.

"Mal," said her sweet voice, "what on Arkadia are you reading this period?"

The young man smiled a bit sheepishly. He valued Valia's opinion over that of all others aboard the space ship. Almost hesitantly he held up the volume in his hands so she could read the title.

"The Biography of Benjamin Franklin," she read, wrinkling her nose prettily. "Who in the Universe was he?"

"A great American of his day," Mal answered enthusiastically. "America! That's where your ancestors and mine came from, Valia, to join this spatial voyage."

"Yes, I know," she agreed. "I didn't have to delve in that musty old corner of the history library to learn that. But never mind. I called you to tell you that Commander Mandark has just descended *alone* to the lower levels on a special tour of inspection. I thought you ought to know, Mal."

The young man became instantly apprehensive.

"Yes, I should," he cried. "Thank you, Valia. I'll join him at once. See you during the next relaxation period."

HE flipped off the visi-screen, put away the volume in its receptacle, and hurried out into the corridor which ran past the library suite. Making his way hastily toward the central portion of the great ship, he descended by escalator from level to level of the vast craft, inquiring of workers and officers about his father. Ten minutes later he was down in the lowest level of the *Arkadia,* down where the hull of the ship was packed with various soils from Earth, where the roots of plants and trees and growing things had worked out intricate designs in nearly two hundred years.

His pulse quickened, and a queer little thrill shot through him. Not for more than fifty years had any man descended to keel level of the Ark of Space alone. It was too dangerous. His own father had put seals on all the storerooms and holds of this level himself. And now Mandark, senior, was violating his own orders.

Mal had reached the metal door which gave upon the underworld of the botanical gardens when he heard a strangled cry. Instantly he flung the door open, noting as he did so that the seal had been removed. He leaped inside, flipping his ray gun up from its holster at his belt.

There in the soft light, sprawled on the damp and moldy pathway between the wire-netted walls of root-entangled earth, lay the figure of his father. Crouched above his bloodied form was a huge and furry monstrosity with great reddish eyes and long coarse whiskers. It was a giant weasark, nearly as large as a horse such as was kept with other animals on the third level.

Mal leveled his gun and fired one withering blast. The creature emitted a horrible squeak, reared up on its powerful hind legs and tail like a kangaroo, pawed furiously at its snout, and then toppled backward—dead. The young man, overcoming his loathing of the ugly creature, sprang to the side of the injured man.

"Father!" he cried in anguish.

The old scientist-commander lay in a widening pool of crimson and did not answer. From the small pouch at the belt of his gold-studded tunic Mal drew a metal box. Deftly he sprinkled a fine powder into the open wound left by the rodent's fangs. The older space man relaxed as the pain subsided. He opened his eyes and nodded weakly toward the still quivering body of the weasark.

"Tem Zuick was badly shaken by a dream he had," he gasped out. "I have worried, too, for years. So I foolishly came down alone to investigate. You —you must kill all these creatures, Mal, before the *Arkadia* and all its precious cargo are destroyed. These last survivors of the human race must not die now—wiped out by a scourge we accidentally brought from Earth."

Mal clutched his father's hand. His young face looked leaner, colder than his twenty years warranted. Well he knew the danger and well he realized the gravity of his commander's charge.

From the maze of pathways and

John Coleman Burroughs

Hulbert Burroughs

Sons of Tarzan's Creator

■ Hulbert Burroughs and John Coleman Burroughs, the sons of Edgar Rice Burroughs, graduated from Pomona College a scant four and five years ago respectively. Since then their various interests have led them into work and travel together, as well as separately. Hulbert has been an archeologist in New Mexico and Arizona; photographer on the Carnegie Institute-Pomona College Expedition to the Giant Ground Sloth caves in the Lower Grand Canyon; explorer and photographer in Lower California.

John Coleman Burroughs, wielder of a Phi Beta Kappa Scholarship key, is not only a writer and photographer but a commercial artist as well. His paintings of Mexican Indians have been exhibited extensively in the West.

Together the brothers traveled into out-of-the-way places of Mexico gathering story material, photographing and painting modern descendants of the ancient Aztec and Mayan races. Writing and adventure are in their blood. They enjoy science-fiction writing. They collaborate for speed, and because they like working together.

roots and conditioning pipes another pair of red eyes gleamed at them.

"I am an old man anyway, Mal," went on the father gently. "My death does not greatly matter; my period of usefulness is over. But you have a long lifetime to serve. Rador will assume command of the *Arkadia* now, but you are a born leader. Who knows, you may some day command the Ark of Space yourself. Meanwhile—meanwhile, my son, I leave the preservation and guardianship of this great ship to you. Find a method to exterminate these terrible weasarks, or we are lost. To you, Malcomb, I leave—the future of all mankind!" With this solemn charge the old man gasped once, shuddered, and lay still.

MAL MANDARK'S mighty hand was again gripping the butt of his ray gun. His eyes were no longer on his father's lifeless body. Back through time and space his mind raced to an Earth he had never known—an Earth which had given him his entire rich heritage, yet which he had never even seen save through the electro-telescope mounted in the upper turret of the great Ark of Space. For Mal was a true son of the interstellar void. Born twenty years ago to his mother in the hospital vault of the *Arkadia,* he had come into existence in a great ship which had already been cleaving its meteoric and majestic way through the cosmos for a hundred and seventy-five years.

But of all the thousands of souls aboard the *Arkadia,* only to Malcomb Mandark was the lost Earth very real. From the Ark's great library he had learned more of the dead planet than any living man. He knew the violent scenes of the dying planet as vividly as though he had lived through those last days. He knew the panic of

humanity when the sun began inexplicably to cool; when, by some inner chemical change, it started radiating cold light instead of life-giving and sustaining heat. Since that distant day Arkadian scientists had reproduced cold light and explained the catastrophic phenomenon, but that didn't change the cataclysm of the past any.

The oceans froze solid. Battles raged between doomed nations for possession of volcanic craters and surviving warm spots. Mass hysteria, looting, crime, everything ran riot while people and flora and fauna died on every hand. Finally one hundred great scientists banded together to forestall the complete annihilation of mankind. For five frantic years they worked, building and equipping a gigantic, super-space ship. Stock and plants and passengers were selected with great care to people this complete microcosm of a world which carried its precious freight of the sum of human knowledge.

Astronomers feverishly searched the heavens, seeking a new world in another solar system where man might survive. And at last the huge sun, Sirius, was finally chosen as their goal. Sirius—fifty-two trillion miles away—man's greatest hegira! Rendered as self-supporting as was scientifically possible, the *Arkadia* parted from its mother planet and set upon its epic starry course to find a world in the family of Sirius where man could live and continue to evolve.

All of this flashed through the young man's mind as he stood there above his father. At the present computation, within twenty-five years—if no calamity overtook the Ark—it would reach the planetesimal orbits of Sirius. Alas that Commander Mandark had not lived to set foot on solid terra firma. Like several thousand others he had been born, had lived and had died within the metal confines of a space ship—an orphan of the Universe.

THE watching giant weasark grew bolder and crept out of its labyrinth. Cometlike, Mal's hand zoomed down to the ray gun at his belt and brought up the weapon. Red eyes studied the man-creature. The long, spiny whiskers wriggled with the sniffing motion of the quivering nose, and the hairless tail whipped to and fro like an undulating serpent.

Mal sighted his weapon carefully. The development of engines of destruction and implements of war had not kept pace with the other scientific advances in the comparative safety of the Ark of Space. He doubted if he could repeat his former shot—puncturing the supra-orbital sinus to strike the brain above the eye. Furthermore, the ray chamber elements were still hot, and the intensity of the electrocuting ray would be diminished in inverse ratio.

Nevertheless, his trigger finger coolly tightened. A weakened stream of electronic vibrations flashed a path of sparks to the tip of the oncoming monster's nose. The creature stopped short, stunned but uninjured, and shook its head. Then, emitting a shrill squeak of rage, it prepared to charge.

Quickly Mal scooped up the body of his father and leaped backward through the vault door, slamming the heavy metal barrier just in time. Shakily he was replacing the seal on the automatically locked barrier as two young men came racing along the corridor from the gravity lift.

Tem Zuick, a slender young man of Mal's age, with sensitive face and great dark eyes beneath a lofty brow, hesitated and shuddered. Then he bounded forward to assist in the carrying of the Ark's commander.

"Great Void, Mal!" he cried. "What happened?"

"Father was making a special tour of this level. Valia warned me he had come alone, and I followed him—too late." Mal's voice was calm and clear, betraying no evidence of the terrible grief he felt.

"These dirty weasarks — these — these galactic ghouls must be destroyed, Mal," exclaimed Tem Zuick. "Just wait until I perfect that disintegrator ray I am working on. I'll make ray guns that won't be impotent!" A wild look came into the

eyes of the youth who had the face of a dreamer.

"What brought the two of you down here, Roto?" Mal asked the second man, a moon-faced, stalwart little man in the uniform of a corporal of the *Arkadia's* police, who looked like a dwarf star beside an island universe in contrast to Mal's tall figure.

"Rador is sending out an urgent call for your father to come to the observatory. We piped him in on the visiscreen in Tem's workshop. Blast my rocket tubes, but he looked excited! So Tem and I started hunting. We traced both of you down here."

"Rador seldom gets excited," commented Mal thoughtfully. "I will report to him."

IT was high time to do something about the weasarks; sealing them off in the lowest level was not enough. Strange, thought Mal, how the Ark had been prepared for every emergency save that of warfare—a hopeful sign for the future of the race, but very inconvenient now. There was no practical method for disposing of the weasarks without endangering the lives of the people aboard, or even endangering the craft itself.

Descendants of a weazel-like rodent and small wharf rats of Earth days, the weasarks—so named because they were a peculiar evolutionary development of the Ark—had already made an alarming dent in precious stores and had done untold damage to root life and soil. For the first fifty years they were unnoticed. In the next fifty they evolved to their present form and doubled in size and number, possibly due to the action of the cosmic rays. There was no magnetic shield against these rays in the lowest level of the Ark.

During the third fifty years the weasarks became so bad that the chambers of lower levels had to be sealed off to confine them while punitive attempts were made to exterminate them. Nothing satisfactory was accomplished. Then nature took a hand. Whatever the cause of the prodigious increase in size of the rodents in each succeeding generation, it was physically impossible for numbers and size both to increase. Thus, the rate of production became more or less static, but the size continued to expand until now the weasarks were the equivalent of horses. Mal had been appalled by the pair he had fought. No wonder Tem Zuick had bad dreams, and Commander Mandark had begun to fear for the ultimate safety of the voyage through space.

Words from Tem Zuick recalled Mal.

"I tell you, Mal, I can't sleep for thinking of those hideous monsters," said the fanatical-eyed young man. "I had a dream so vivid about them gnawing out of the lower levels and overrunning the entire Ark, devouring all our livestock, stored foods, invading our granaries, ruining the gardens, and actually killing people—I had to tell your father about it. They were everywhere—in our living quarters, laboratories and control rooms. I woke up with a mental picture of the Ark hurtling through space—a meteoric tomb for us all!"

Tem Zuick covered his face with his hands and sobbed like a child.

"Never mind, Tem," Mal soothed. "We will see that the two lowest levels are permanently sealed, and you can go ahead with your plans for your disintegrator gun without fear."

Reaching the gravity lift, Mal laid his father's body down gently upon empty air about couch height to the level upon which they stood. There was no floor, no cage in the shaft; the men were simply suspended in space. Roto pressed a stubby fingertip on a button. The quartz doors slid to, and they sped upward as though in a well behaved elevator toward the upper levels of the *Arkadia*.

CHAPTER II

Nova Terra

BEFORE a sorrowful gathering of Arkians the general's body was

filled with a liqiud disintegrator. It was then set aside in the spatial tomb to be ejected with other caskets when the Ark next passed through the gravitational field of some celestial sphere. Otherwise, the caskets would remain within the gravitational field of the *Arkadia* and hurtle through space beside the Ark like a miniature solar system.

At the close of the ceremonies, Mal felt a hand placed gently on his shoulder. It was Rador, the Ark's elderly engineer-astronomer. Tall, handsome, he was garbed in a long tunic of white Ark cloth. With his snow-white beard, Rador appeared the perfect synthesis of wisdom and age. That hand on Mal's shoulder conveyed both sympathy and excitement.

"You sent for my father before—the accident?" asked Mal.

"Yes," said Rador. "But now it is doubly urgent that you come with me immediately to the observatory!"

Together the two men hurried from the large assembly room to the gravity lift.

"On the official examination graphs," said Rador, "I have been watching your intelligence, knowledge, and leadership quotient curves rise. Soon they will pass mine and then you will be chosen the Ark's new leader—"

The quartz doors slid closed, and they began rising upward in the gravity lift.

"—and as the Ark's future leader," continued Rador, "you must be the first to confirm the new course I've just set. During the last three periods my eyes have barely left the magni-telescreen. I have made a startling discovery, Mal!"

Mal's heart leaped to his throat. He had not been unaware that some day he might be the Ark's commander, but now the sudden realization of that great responsibility bore heavily upon him. Highest officer of this man-made meteor! The only thing akin to a world he had ever known was this mile-long, thoroughly insulated bullet that hurtled through space—a meteor and a machine as scientifically compact as any piece of machinery ever made.

From the delicate mechanism of the anti-gravity electrical propulsion apparatus and the artificial atmosphere oxygenator plant to the retractable magni-electro telescope, every section of the giant streamlined ship was thoroughly complete, systematized. And since the temperature of the outer regions of space approximated the absolute zero of —273° C., the ship was thoroughly insulated and air-conditioned.

As the two men stepped into the upper control room Rador greeted the navigator in charge with a salute. On the forward panel he quickly checked the various control instruments coordinating the Ark's intricate propulsion mechanism.

The electro-propulsion apparatus nullified and controlled gravitational attraction by making use of the fact that like electrical charges repel and unlike charges attract. Tremendous electrical potential, both positive and negative, was induced within the Ark's great fore and aft storage batteries as the ship passed within the magnetic fields of various heavenly bodies on its journey. These stored-up charges were used as repellent and attractive forces to guide the Ark and keep it from being sucked into some holocaustic sun or dead planet, and to steer it clear of the ruinous pelting of any chance gigantic meteoric stream.

Mal studied a great celestial map in the control room which accurately marked the position of the Ark in space. Six inches away on the map was the great star of Sirius, actually still millions of miles distant but approaching rapidly. Mal glanced at a large dial in the control panel, his brow knitted.

RADOR guessed his thoughts.

"As you see," he explained, "Sirius is beginning to exert a tremendous pull. Already I have ordered a 20 percent increase in our forward repellent charge. In twenty-five years we shall be passing so close to Sirius itself that we'll be using our maximum potential."

"But with a forty percent increase now," pointed out Mal, "we could skirt Sirius with no difficulty and within an Earth year be well out of her pull." Mal studied Rador's line-etched face for a moment. "You must have some reason that makes it necessary to skirt Sirius so closely."

"I have," said Rador. "For a year now your father and I have observed Sirius and checked her planets. Every one we tested—there are eighteen—we determined spectrographically to be uninhabitable for one reason or another. We kept this out of the newspaper, hoping against hope for some error in our calculations, but we checked and double-checked. Our figures always tallied. Three periods ago we had given up hope. That was why Commander Mandark was so worried over the possible inroads of the weasarks."

"And now?" Mal's skin tingled.

Rador sighted through the eyepiece of the telescope, moved the great control wheels.

"But our figures," he continued without looking up, "always showed an inexplicable orbital eccentricity of several planets in Sirius' realm. We hoped it meant one more planet somewhere that we had not observed." The old man looked up at Mal with shining eyes. "Last night I saw it—moving out from eclipse behind Sirius. I called it Nova Terra—New Earth," and the old scientist wiped his eyes. "Nova Terra has an atmosphere favorable for our life, and of course, water. Its mass gives indications of gravity approximating that we once had on Earth."

There suddenly flashed on the wet photographic emulsion screen the image of a gorgeous blue planet, now only the size of a baseball—but weird and beautiful and majestic.

"Our course," said Rador, "forces us to pass close to Sirius so there'll be no danger of missing Nova Terra as she hurtles by us—for its tremendous orbit would take it a century to be around here again."

Upon the living photographic image Rador turned the powerful corpuscular enlarger which sent the atoms that composed the image speeding into greater orbits thereby tremendously enlarging the original image, and bringing Nova Terra so close that the planet filled the huge emulsion screen before them.

"I have seen many heavenly wonders on that screen, my boy, but Nova Terra surpasses them all in beauty!" Rador said reverently.

A great blue atmospheric haze, probably clouds, obscured the surface of the planet. Occasionally, yellow flashes seemed to lighten the clouds from beneath. It was a gorgeous, thrilling spectacle to these worldless spacemen in the control room of the Ark.

"There, please God," said Mal softly, "man will build anew."

"But for some unforeseen circumstance," said Rador, "we shall land upon Nova Terra within twenty-five years."

"Will I live to stand on Nova Terra? Will we land there during my life's span?" Through Mal's brain raced again the thought that had tormented him all his life. He had been born in space; was he doomed to die in space? A man without a world!

One question in Mal's mind he kept to himself: "What caused the yellow flashes that even now were visible beneath the clouds that hovered over Nova Terra?"

LIFE flowed on in a more or less even tenor while men and women rejoiced that the epic voyage was nearing its close. Work and education of the young was shaped anew to prepare for the great day of landing. But Mal alone was the only person who troubled to bury himself in the lore of the past.

Once in his workshop Tem Zuick looked at Mal through the sights of his new, untried space gun and said to him:

"Don't be a fool, Mal! Why waste your time dabbling in the outworn science and history of a dead and forgotten world? Reaching Nova Terra and living there will be a problem to be met by new thoughts, new weap-

ons!" And Tem Zuick patted his space gun affectionately. Again, Mal saw a strange, wild light in the eyes of his friend. "Why don't you devote more time to the wooing of Valia?"

In the two hundred and fifteenth year of the voyage, by Earth time computation, a great banquet was held in celebration of the coming landing. Mal Mandark, now in his fortieth year, was commander of the *Arkadia*. With his beautiful wife, Valia, he celebrated also the fifth anniversary of their son's birthday.

In all its years in space, the Ark had never known such reveling and merriment. The great dining hall was resplendent with decorations. Miniature blue planets, like Nova Terra, hovered over the banquet table as tiny toy Arks sailed about them. And as a joke, Engineer Rador, dressed as Father Time, presented the new commander with a big golden pumpkin, with green letters reading, "The New Earth, from Father Time."

And little moon-faced Roto, about as round as a planet now himself, danced out dressed as a baby, with a pennant flowing behind him that read, "Baby Earth, coming up!"

It was all silly, but everybody laughed—everybody save Tem Zuick. He sat with burning eyes flashing from Mal to Valia where they sat at the far end of the huge banquet table.

Presently Zuick rose, a shaking wine glass in his hand, and called for a toast. Mal caught again the wild light in his friend's eyes, and he wondered. But Tem Zuick had been but little in his company of late years.

Zuick made a good speech, and a sincere one, complimenting Mal and expressing the genuine admiration of all *Arkadia* for their new commander. Then he raised his glass high.

"To Mal Mandark," shouted Zuick, "who knows more about the lost Earth than the Earthmen did themselves—and to Valia, his gorgeous mate! May the misbegotten spawn of a dead world never gnaw into their happiness!"

And Zuick hurled his glass against the pumpkin in the center of the table and ran from the hall.

There was a strained silence. Then Mal rose and lifted his glass.

"To the memory of our ancestors," he said gravely.

It was an hour later while Mal was dancing with his wife that Major Roto tapped his commander's arm.

"Attendant on the official visi-screen, Mal. Something's gone wrong below!"

On the televisiphone screen in a booth at one end of the banquet hall, Mal looked into the fear-stricken face of the corridor captain speaking from level four.

"The weasarks!" the man cried. "They've broken out of the second level. They're coming this way up the main ramp! I just slammed the gate in time."

MAL flicked off the image, tried to contact the gate attendant at level three. There was no reply. The delicate coils in the oxygenator rooms! The sensitive dials and plates in the battery vaults—all were on the third level, and the gateman was off duty or dead!

Again Mal flicked for an answer, this time from the atmosphere chambers on level three. For ten long seconds he waited. Then:

"Lieutenant Didras reporting from the atmosphere chambers," came the voice; and now the image of the young officer came into focus. He was holding his space gun—pitifully inadequate weapon against weasarks.

"The weasarks have not yet reached this room. Forward batteries three, five, six and eight have been partially destroyed. Send help immediately! Wait!" Didras turned toward the rear. On the screen Mal caught a brief out-of-focus glimpse of a dark, giant form over Didras' shoulder—a glimpse of grinning rodent teeth! Then Didras' voice came again.

"They're coming into the atmosphere plant! Hordes of them! For God's sake, hurry!"

Mal leaped from the booth. Too late to warn the battery-vault men! Didras' last words beat in his ears:

"The oxygen is escaping. I am try-

ing to turn off the valve—"

To a captain at his side Mal shouted as he ran.

"Seal every opening leading down from this level. Be prepared to open the auxiliary oxygen valves when I give you the signal!"

With Roto and ten other armed officers Mal shot downward in the gravity lift toward the lower levels of the Ark. Moments seemed like years to him. Incredible that the giant weasarks were loose! Twenty years ago he himself had placed the seals on the portals of the storage vault on level two—seals that could be broken only from the outside! But how? Who?

Then suddenly Mal knew.

CHAPTER III

Tem Zuick's Gun

AT the ramp leading down to level two Tem Zuick was sprawled, crushed upon the floor.

The vault door was open, the great seals ripped away by a crowbar which Tem still grasped. Clutched tightly in the other hand was the gun Mal recognized as the one his friend had been working on for many years. Tem had never had a chance to fire it! He had labored in vain.

Taking the queer looking weapon from the dead man's hand, Mal raced down the ramp toward the lowest levels of the Ark; toward the oxygenator chambers and the storage batteries. Maddening thoughts gripped his brain. If the atmosphere plant were destroyed—suffocation in space! If the batteries were ruined—no repellent charge to fight off Sirius' pull!

At the next turn he slid to a grinding stop; the Zuick disintegrator gun clenched in a grip of steel. Death was gliding toward him in the form of grinning teeth of a monstrous creature nearly twice the size of that which had killed his father long years before. It jammed the passageway, slithering along on its belly toward Mal. This fact may have saved Mal's life, for it gave him time to whip into action Tem Zuick's gun. Familiar with its operation, Mal coolly trusted his life to its efficiency. He had faith in the burning-eyed Tem Zuick.

The weasark was not more than fifteen feet away when Mal's forefinger pressed the trigger. A blast of bluish, ultra-violet flame belched from the muzzle. There was no sound. Only the sizzling of burning flesh as the monster's head disappeared. The weasark slumped, lifeless, to the floor.

Mal smiled grimly as he bounded forward, raying the dead rodent neatly out of existence. God bless Tem Zuick! His men at his heels, Mal plunged to the entrance of the battery vault. Another weasark thrust its head from the doorway. Mal swung to one side. A blast of light flashed from the Zuick gun, and the rodent was no more. Mal slammed the battery vault door shut. But in that brief moment he caught a glimpse of other giant rodents milling and squealing about the sensitive coils and delicate plates of the storage batteries.

"Quick!" shouted Roto. "The atmosphere plant!"

With a bound Mal leaped across a pool of blood. The door leading to the atmosphere vault was closed. As Mal swung it in upon its massive hinges, a hissing and screeching of escaping oxygen blasted his ears.

Didras was there, dead. But even in death his hand clutched the control valve. In an instant Mal had closed it to stop the flow of precious oxygen.

At the far end of the room three gargantuan weasarks squatted. Their hulking bodies, even as they breathed, were shattering and crushing delicate glass tubes, sensitive mixing chambers! Again a blast shot from the gun in Mal's right hand. The charge seared completely through the nearest beast, blotting it and the one directly behind it out.

"Look out!" shrieked Roto.

WITH a frenzied squeal the third rodent sprang forward. In its path lay a maze of delicate oxygenator equipment. And in that same instant a vivid violet flame flashed from Mal's gun hand. The animal passed

out of existence just before it would have shattered the equipment.

"Take this gun," Mal commanded one of the officers behind him, "and kill the rest of these damned beasts in the battery vault. Do it from the doorway. Don't take any chances, and don't lose this gun!" As he handed the Zuick gun to one of the men, he gave it a fond pat.

"Poor Tem. Too bad he didn't live to see that gun work. Come with me, Roto."

"Great cosmic cucumbers!" expostulated Roto, sweating. "Lucky if any of us lives much longer than Tem!"

Ten minutes later Mal and Roto were in the control room. Engineer Rador and seven other stern-visaged officers faced him anxiously. Mal loomed in height above them all, held their attention compellingly.

"The weasarks are under temporary control," he reported, "but they've severely crippled the oxygenator plant. The forward storage batteries are badly damaged. Their remaining charge is almost completely ineffectual. Thanks to Rador's alertness, our maximum repellent charge was thrown on just before the rodents broke into the battery vault, and we barely managed to cross the balance point between Sirius' pull and Nova Terra's. Gentlemen, we are slowly descending toward Nova Terra. In a few hours we shall have reached our goal!"

There was a spontaneous murmur of relief from the little group of Arkian officers huddled in the lonely control room.

"Thank God," barked Slooken, commander of the guards, "that we have no farther to go!"

Rador stepped forward. His face was like a specter of death.

"We will never reach Nova Terra," he said sadly, "or any other world—alive!"

Mal heard the old man's words long before their true meaning seared into his brain. Then the coldness of space shot into his stomach as Rador turned to him.

"Do you remember those peculiar flashes of light we observed that day we first saw Nova Terra—those flashes visible through the clouds of the dense upper atmosphere? Look at them now with this new telescope adapter!"

Mal focused the giant telescope. Nova Terra's primary image completely filled the luminous screen. Rador flicked into position the new model magni-corpuscular enlarger. Instantly the planet swelled, seemed to zoom in upon them. The officers instinctively jumped back.

"Great Void!" gasped Mal.

THE brilliant rays from the giant sun, Sirius, shone gorgeously upon the upper atmosphere of Nova Terra, making it glisten like a blue sapphire. An atmosphere that had before appeared far away and lifeless now became a seething, boiling mass of gigantic clouds. Those dim puzzling flashes of yellow light were now great blinding arms of livid flame that shot downward through momentary breaks in the clouds which revealed glimpses of a huge forest, a sea, mountains, great open plains.

But always those tremendous flashes shot downward. They illuminated the clouds from beneath like night artillery bombardments of their ancient world. They were occurring with astounding frequency. And with each bolt the clouds momentarily separated to disclose what appeared to be seared and smoking vegetation.

Mal bounded from the screen to the flight control panel. As he spun the great wheel, the dial beneath it flashed from "FULL SPEED" to "HALF SPEED" and finally to "STOP." His face was tense as he turned to Rador.

"We can't land there! We'd all be dead in five minutes!" he said grimly. "Those flashes are gigantic bolts of lightning!"

"Right," said Rador resignedly. "The entire atmosphere is supercharged with electricity. Those storms dwarf into nothingness the electrical storms that were said to have occurred upon Earth." The old man sank slowly into a chair. "It is the end! The Ark could never survive those bolts of lightning. Fifty-two

trillion miles of space have we crossed to arrive at a conclusion we should have reached twenty years ago."

"This should have been known before," blustered Colonel Slooken, "so that our course could be changed to another planet! If our learned commander had spent more time studying immediate Arkian problems and less time dabbling in decadent and musty Earth volumes, this unhappy situation would never have arisen!"

"Don't be absurd, man!" exploded Rador. "There's no other Sirian satellite we could live on! And if there were, how do you expect us to get there with crippled batteries and an oxygenator that'll have us suffocating before long? Besides that, our food supply would never last us long enough to find another solar system —thanks to the depredations of the weasarks."

Roto chuckled, satisfied. Mal stood before the control panels. He had heard none of those bitter words. Ringing in his ears was his father's voice speaking out of eternity:

"To you, Mal, I leave the future of all mankind!"

"My God!" gasped Rador. The engineer's eyes were glued upon the control panel. "The altimeter! We're falling!"

Mal sprang to the panel. The gravity repulsion dial read "STOP," yet the altimeter graph indicated a slow but steady fall. There could be no doubt of it. The planet's gravitational pull was too much for the Ark's weakened batteries.

"Galactic goosefeathers!" breathed Roto, following Mal from the control room.

All color had fled from Colonel Slooken's face; and with it shrank his pompousness.

"What can we do?" he whimpered. "We'll all be killed!" His terror stricken eyes searched wildly about the room. "Where's Mandark?" he suddenly shrieked.

IN the excitement of the impending catastrophe no one had seen Mal and Roto step quickly from the chamber. Three minutes later the two men sprang from the gravity lift at the lowest level of the Ark. Quickly Mal unbolted the door leading to his workshop in the seldom-visited starboard storage vault.

Upon the floor of the vast chamber lay thousands upon thousands of feet of carefully coiled ark-metal chain. In the center of the huge coil was the Ark's metal-capped keel hatchway. Directly above the hatch swung a heavy pulley through which the end of the chain was reeved. Fastened near the end of the chain was an oddly constructed chair. To its side was secured a heavy gun.

From a near corner Mal dragged a heavy space-suit. No words passed between the two men as Roto helped him into the cumbersome outfit. From a small step-ladder Mal climbed into the chair suspended from the chain over the hatchway.

"Quick, Roto," said Mal, "take a look through the periscope. How close are we now?"

"Blast my dials, Chief!" exclaimed the little fellow as he peered through the instrument in the hatch-cover. "We're gettin' awful close! Those clouds are sure dark!"

"What does the altimeter read?" Mal barked out.

"Hundred thousand feet," Roto gulped, setting in motion the machinery which opened the hatch.

"Hand up my oxygen helmet, then," said Mal. "Remember your instructions!"

As Roto lowered him away through the hatch, Mal felt an exhilarating thrill tingle his spine. It was the first time a living Arkian had left the ship since she was sealed tight those two hundred and fifteen long years ago!

CHAPTER IV

Ben Franklin's Kite

FAR below Mal, to the right, the faint glow of the first Nova Terrian dawn was breaking. As he swung clear of the Ark's great hull he flicked on the radio transmitter encased in

his helmet.

Rador, Slooken and the other officers in the control room started to attention as a voice boomed from the loud speaker.

"Rador! Calling Engineer Rador. Mandark calling Rador! Come in at seventeen hundred kilocycles!"

In an instant the old engineer switched on the transmitter.

"Mal! Where are you? What happened?"

"Listen carefully to what I'm going to say, Rador. And follow my instructions to the letter. What happens in the next few hours—maybe minutes—will decide the Ark's fate."

"Right, Mal. We'll do anything you say. But what level of the Ark are you speaking from?"

"I'm not in the Ark," replied Mal. "Right now I'm about two thousand feet below the Ark."

Mal heard Rador's gasp of surprise, but he gave the old man no chance for a reply.

"Here's the plan." Mal's voice came in very clearly. "I'm going to establish a lightning conductor on the surface of Nova Terra." He paused. "Ever hear of one, Rador?"

"I think so, but—"

"I'm working on that age-old principle discovered by Benjamin Franklin. You know, the kite in a storm—static electricity coming down the string? Well, my kite happens to be one of those small editions of the gravity repulsors—the ones our ancestors stored away for us to use in lighter-than-air craft if and when we reached our goal. Roto and I made a swell 'string' for the kite several years ago by welding all our ark-metal chain together—nearly nine miles of the stuff. I had an idea years ago that those flashes were lightning and that we'd get in trouble trying to land. It was by reading up on all Earthly science and history that I found an analogy to compare with this. That's how I got the idea. We've been working on it for years."

"But I still don't quite see what you are going to do!" Rador said, bewildered.

"This nine miles of Ark-metal chain will be held suspended in mid-air by the gravity-repulsing machine. I've a control lever right beside me here with wires running up to the repulsor. As soon as Roto finishes playing out all the chain, I'll descend to the surface of the planet and anchor the chain. As soon as the chain is grounded, the air for a good distance around the chain will be partially insulated, and the Ark will then be able to descend within the insulated column of air to a safe landing. Later on we can build solid metal lightning rods—not little ones which even Earthmen admitted were unreliable, but big ones extending high into the air."

"But my God, Mal!" exclaimed Rador, comprehending. "You'll be electrocuted long before you reach the ground! Come back before it's too late—we'll find some other way!"

MAL laughed a bit shakily.

"I forgot to tell you I'm wearing one of the insulated spacesuits from the lower storage level. Not much danger of my being juiced. Anyway, it's a risk I gladly take." Then his tone changed. "Your job, Rador, is to guide the Ark down alongside the chain as soon as I ground it. How fast are you falling?"

"I switched on our maximum potential," replied Rador, "just after you left the control room and it seems to have slowed us up considerably. We're sinking about a hundred feet a minute."

"Good!" exclaimed Mal. "If you can stay above the upper storm clouds until I get down there I think we have a chance."

"It'll never work!" shrieked Slooken. "The idea is preposterous—the man's mad! Cut him loose and we'll turn back before it's too late!"

"Shut up, you fool!" shouted Mal. "It's our only chance. We can't turn back now. If anything should go wrong for me, Rador, take care of Valia for me."

"You're right, Mal," broke in Rador. "It's our only hope. We'll stand back of you. We'll do anything you order! Of course, I'll take care of Valia."

It took two hours for Roto to play out the nine miles of chain. Finally the small gondola containing the precious gravity repulsion machine was lowered away. By the time it had cleared the hatch and swept free of the Ark's hull, Mal had disappeared far below into the great cloud bank. Rador estimated the clouds to be 50,000 feet above the surface of the planet. The Ark was still 10,000 feet above the clouds.

The temperature of the thin upper reaches of the atmosphere was very low, and Mal felt thankful for the heavy space-suit he wore. At his right hand was the lever by which he controlled the small anti-gravity apparatus at the upper end of the chain. Strapped to the side of the chair was the gun loaded with a spearlike anchor to which the lower loop of the strong ark-metal chain was attached.

"Mal!" It was Rador calling. "You'll have to speed up your descent. The Ark is dropping faster than I figured. It's going to be a fight to keep her above the storm!"

At that same instant a bolt of lightning struck the chain somewhere far above Mal. There was a sudden upward jerk on the chain. Almost immediately a blinding flash shot out from the anchor ten feet below him. With a hissing and sputtering it clung momentarily to the chain before it shot downward to the ground. A cyclonic rush of air whirled him about. Then a deafening peal of thunder. Mal thought his head was splitting wide open, and he was conscious of a tingling sensation.

"Mal? *Mal?*" came Rador's voice.

"That nearly knocked my teeth out!" Mal finally exclaimed. "But the lightning rod is working!"

"Are you all right?" shouted Rador.

"Everything's okay. What were you saying a second ago?"

"I said you'll have to hurry it up. The Ark's sinking faster every minute."

"Right!" shouted Mal as he pulled the gravity control lever.

PLUMMETLIKE he shot downward through dense clouds. A biting cold wind whistled past his helmet. In that next instant he felt another upward jerk. A second bolt passed from the end of the chain, and he closed his eyes against the blinding flash. Again the violent tornado of wind. Again the deafening burst of thunder. Again the tingling sensation, stronger this time.

When he opened his eyes he gasped at the sight below him. He was beneath the clouds. Two thousand feet below lay the surface of Nova Terra. He was falling at an appalling speed. With an effort he thrust the control lever back.

The landscape below him beggared description. It rivaled the most fantastic flights of his wildest dreams. Nova Terra had vegetation surely enough—but, God, what vegetation it was! Trees of weird shapes and colors reared their "branches" fully seven hundred feet into the air. Directly beneath him was a treeless purple area extending to the edge of a mighty sea. Gigantic waves of apparently great viscosity were breaking upon a rocky and jagged coast whose foothills rose to sharp pinnacles.

Again an upward jerk. A tremendous arm of lightning shot to the ground. A typhoonic rush of wind. A crack of thunder. And a distinct shock that partially paralyzed him. The bolt struck just within the forest below him. Every tree was seared and smoking for a hundred yards around. A steady, violent wind was blowing. But strangely no rain was falling. Suddenly Rador called.

"For God's sake, hurry, Mal! We're only two hundred feet above the storm!"

Beneath him rose sturdy, jagged rocks at the edge of the sea. It was the only likely place to ground the anchor chain. Rapidly he dropped to within a hundred feet above the rocks. It was a great effort for him to move his arms. The thick space-suit seemed to be bearing down heavily upon him. He could scarcely move his arm now on the control lever. The wind was taking him rapidly over the rocks toward the violently churning sea. Like some fiendish devil, it redoubled its efforts

to thwart his purpose. Then came Rador's tense words.

"We're just entering the upper level of the storm. Will it take much longer?"

Mal had no time to answer. In his powerful hands he grasped the anchor gun with its heavy charge. With all his strength he raised the huge gun and thrust the gravity control lever forward with his knees. In that instant the fate of mankind hung in the balance.

The resultant drop was all that he needed. Mal jerked the trigger. A terrific explosion shot the anchor out of the gun, lodged it far into a sturdy pinnacle of rock.

"Rador!" Mal shouted into the microphone. He could not hear his own words above the whistling fury of the wind. The chair he sat in was swinging precariously.

"Hello, Mal. Is everything all right?"

"The chain is anchored," yelled Mal. "The storm down here is terrific. When you break through the clouds you'd better head for an open area here. It's bright purple. Can't miss it. You'll have plenty of room. There's mud and rocks right below me—real ground! I'm going to be the first man to touch the new world!"

A SUDDEN jerk tugged at the anchored chain, and a burst of static nearly deafened Rador at his receiver in the *Arkadia's* control room.

"Mal?" he shouted. "Mal? Are you all right?"

But there was no answer. Mal Mandark, incased in his heavy space-suit of insulated metal, had not figured on the storing up of static electricity. He had had no chance to leave his descent chair. He swayed there, a lifeless, grotesque figure, just ten feet above the soil of the new Earth. Like his father before him, he had lived and died—a man without a world!

A short time later the Ark of Space sank slowly from the lowering blue clouds, coming gently to rest upon the great purple veldt near the mighty sea with its roar of surf no human ears had ever heard before. Magically the area for a radius of several miles around the chain conductor was entirely free of lightning blasts. While outside that insulated field huge forks of flame shot downward from every side.

It was Roto who reached Mal's body first. Oblivious to the danger of electrocution, he climbed up and released his commander's form. Sobbing, the stalwart little major knelt on the ground beside his dead leader as the quietly weeping Valia was conducted forward by the aged Rador.

Columbus! Balboa! Hudson! Puny men who had only discovered continents, seas, rivers. Mal Mandark had safely led the surviving remnant of humanity to a new planet and, like Moses, had not lived to enter the promised land.

"Science, new and old," whispered Roto. "First Tem Zuick; now you, Mal. And most of them thought you were foolish to study Earth history!"

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MOON of INTOXICATION

He whirled to see Oyloy being dragged several feet off the trail

An Ether-Jag on Io Plays Tricks with an Earthman Trader's Sulphur-Xipho Swap

By EANDO BINDER

Author of "The Jules Verne Express," "The Impossible World," etc.

"I WON' be home un'il morning—oh, I *won'* be home un-'il morning!"

The passable baritone rang out of the hut and over the sylvan quiet of Io. But the singer *was* home and it *was* morning—at least the permanent Jupiter-shine had been strengthened considerably by the rising sun, small and far though it was.

Canny Lon Ralston was not in full possession of his senses. Briefly, he was drunk. But not because of an old habit he could not foreswear, nor yet from alcohol. He had what on Earth would be vulgarly named an ether-jag, forced upon him by the environment.

Lon was not exactly displeased at these times, but he never could understand just why the "hospital" plant, as it was appropriately called, periodically exuded a puff of pure ether.

When a few thousand of these strange growths did so at once—as often happened in obedience to some natural cycle—a huge cloud of ether would be formed, blown about by the vagrant breezes. It would dissipate eventually, of course, but at times, as now, the cloud would happen to waft

upon and into his hut.

Olfactory nerves blunted by the pungent atmosphere of this world of prolific flora, there was never any warning to Lon Ralston. He would just suddenly find his head whirling and his thoughts fogged. The concentration of ether seldom reached the anesthesizing point—would only produce extreme intoxication.

And this phenomenon was always followed by another. Lon would burst into song!

He went through a dozen lusty choruses before the spell passed. He swam out of befuddlement to realize that he had company. A large moon face peered in the open window. Big, lidless eyes stared at him in profound wonder with an aboriginal mind behind them.

Lon Ralston jumped up with an exclamation, grabbed a sack from the corner, and went out.

"*Xipho?*" he inquired.

The native nodded eagerly and held out a bundle of triangular green leaves edged with bright crimson. Lon took the bundle, estimated its weight at a pound Earth-measure, and grinned in satisfaction. A pound of the rare *xipho* was worth a hundred dollars on Earth. It made a delectable, exotically flavored tea much prized by those who made an art of cuisine.

"Thulfur?" asked the Ioan, fidgeting from one foot to another.

Lon turned to his sack, reached within and drew out an old innertube with a gaping slit in it. Some car on Earth had at one time or another run into glass. The trader extended it.

The native shook his head. "Thulfur," he lisped again. All Ioans lisped because they had no teeth with which to form the "s" sound.

Lon drew out three innertubes in various states of ruin and offered them all.

"No," said the native emphatically. "No wan' rubber. Wan' thulfur!"

"Ith that tho?" mimicked Lon sarcastically. "Bless you!" he roared then. "You know I could just as well not pay you anything. You're nothing but a skinny beanpole. I could take five of you and break you across my knee like sticks of wood, and have your *xipho* gratis!"

YET all the while Lon knew he wouldn't do any such thing. Some traders did take advantage of the natives, but Lon had always treated them fair and square.

"Thulfur!" said the Ioan stubbornly, refusing to be bluffed.

Lon sighed and went back in the hut, to reappear a moment later with a carton of lump ammonium sulfate, which he handed to the native.

"More?" asked the Ioan, clutching the carton eagerly.

"It's the last I have, and that's the truth," said the trader. He threw the three innertubes at the Ioan's feet. "And my rubber is gone, too, which means I won't get any more *xipho* because of greedy ones like you."

The native looked sad, but only for a moment. He was staring at the box of sulfate as an Earthman might stare at a bag of diamonds. Then he gave out a shrill call. From the nearby edge of the jungle his family came running, a mate and a young one.

Physically, the Ioans were remarkably similar to Earth-people, more so than any other race yet discovered on other worlds, differing only in being very thin and having large heads, lidless eyes and no teeth. Their physical weakness was matched by a mental deficiency.

Lon watched curiously as the Ioan broke up a lump of ammonium sulfate and gave a piece each to his mate and offspring, retaining one for himself. Eagerly, in fact wolfishly, the three gulped down their portions. Lon was witness again—and it never failed to amaze him—to the phenomenon of accelerated metabolism.

In the youngster it took the form of actual growth. His thin little potbellied body visibly lengthened an inch or so before the Earthman's eyes. His distended stomach reduced itself at the same time, showing that the food he had stuffed into it had been assimilated in the incredible time of minutes. The effect on the parents was to stimulate their activity and bring a sparkle to their dull eyes.

With an unusual energy for the listless race of Ioans, they began to dance up and down and bleat out in what was meant to be song.

"I hope *you* don't have a hangover," muttered Lon.

Eagerly the mate pointed to the remaining sulfate in the box, lisping in the native tongue, but the male Ioan shook his head vehemently and stuck it in his belt pouch after closing it. He picked up the three innertubes the Earthman had thrown at his feet and distributed them. They began sucking at the rubber, and, engaged in this strange occupation, danced away toward the jungle. They disappeared like fauns in a Bacchanal orgy.

A Famous Writing Team

Otto Binder

EANDO BINDER, as most readers know, is really the writing team of Earl Binder and Otto Binder. Earl Binder, born in 1904, and the older of the two, began his science fiction career by collaborating with Otto in 1932.

Their early stories won immediate attention. Their first novel, "Dawn to Dusk," published in the old Wonder Stories, has been acclaimed as one of the most outstanding stories in science fiction.

Earl Binder

Over sixty stories have resulted from the Binder mill since they first began writing. Novels, short stories, and novelets by the Binder team have been featured by every science fiction magazine in the field.

Otto's favorite story, throughout all the years, is "The Chessboard of Mars." Yes, that story was published in THRILLING WONDER STORIES.

Their pet gag: Asking Brother Jack Binder, the Scientifiction artist, whose stuff he likes the best.

Lon was not biologist enough to know the explanation of what he had witnessed. Io was a sulfur-starved world. As one of the vital elements necessary to animal growth and metabolism, Ioan fauna had always been a handicapped, struggling phase of life, inferior in many ways to the prolific flora. A long evolutionary process thrice the length of Earth's had not been able to produce more than the listless, subhumanly intelligent Ioan race, which would never rise above its primitive stage.

BUT Lon had been shrewd enough to sense that sulfur was the ingredient the Ioans instinctively hungered for more than anything. The early traders had been mystified to find rubber highly prized by the natives, who would suck it the livelong day. In his first season here, Lon had also brought rubber to trade for the valuable *xipho*. He had seen their frantic taste for it.

He had reasoned it out. What did rubber have *in* it that they liked, for they never *ate* the stuff? Then it had struck him—sulfur! All Earthmade rubber had sulfur in it, in a non-toxic form. So in this, his second season, he had brought along a hundred pounds of ammonium sulfate which contained sulfur in a digestible form.

The result had been highly gratifying. Where before the shiftless, undependable Ioans had straggled in with ounce and two-ounce batches of *xipho* leaves, they now came running in with pound lots and more. They went for the sulfur compound as Earth-people, lacking sugar, would go for candy.

Weight for weight, Lon had traded the salt for *xipho*. The sulfate, shipped from Earth, had cost him ten dollars a pound; the *xipho*, in turn, would sell for ten times that much. Not a bad profit, on any man's world. He had stolen a march on all other traders in the Ioan jungles.

The natives gone, Lon took the bundle of *xipho* leaves in his hut. Humming to himself despite the splitting headache that came as an after effect of his ether intoxication, he shredded the brittle leaves with his fingers into an aluminum pan. Then he dumped the panful of flaky *xipho* into a bulging canvas bag in the closet.

He hefted the sack and grinned contentedly. It could be no less than a hundred pounds, Earth-weight, though it was but one-sixth that here. A hundred pounds! He stood to make ten thousand dollars gross this season!

Lon sat down to bask pleasantly in the thought of prosperity. The pick-up ships were due to arrive before the spore season began. These ships gave traders on Io safe passage to civilized Ganymede, for a fare of one hundred dollars. Outrageous price, but Lon would pay it gladly. They would be transporting for him nine thousand dollars' worth of *xipho,* when all expenses and duties were paid.

Nine thousand dollars! He would have that clear when he got back to Ganymede. With that, Bob, his kid brother, would be able to go to college and not take to knocking around the planets, as Lon had for the last fifteen years of his life. Lon had always felt he had no place in the economic complexity of Earth's civilization, but he wanted Bob to live his life in a decent environment, one he was born to. Lon had had too much of frontier life to have any illusions about it. It made you hard and grim, and old before your time. Earth was the place for Bob, on that Lon was set. And this nine thousand would keep him there.

"Bless me," sighed Lon heartily, stirring himself. "I believe I'm hungry."

AFTER eating, he settled himself in his chair to doze off his hangover headache. The next thing he knew, something hard and small jabbed into his ribs and a gruff voice said, "Just sit quiet, Ralston, while I tell you something!"

Lon gasped. It was the voice of Matt Warner, nearest neighbor among the traders—and least trustworthy. He mistreated the natives and had a dark reputation in his dealings with even his fellow Earthmen. His hut was only five miles to the north.

Lon turned and looked up at him. He was scowling blackly and his general manner was one of desperation.

"Dozing, eh, Ralston?" spoke Warner again. "Thanks—for making it easy for me. I'm here to take your—*xipho!*"

Involuntarily, at the mention of *xipho,* Lon jerked and made a grab for his gun, only to find it gone from its holster. Warner had quietly slipped it out already.

Warner laughed. His voice was ugly. "I'd just as soon shoot you as not, so let me have it. I'm desperate. I've had a rotten season—got only ten pounds of *xipho,* barely enough to pay expenses. Where do you keep yours? Speak up, or I'll let Jupiter-light in on your liver and take my time looking!"

"In the closet," said Lon tonelessly.

Warner backed to the closet door and jerked it open. His eyes glistened when he saw the huge sack. "Man, that's a young fortune of it there—"

Warner kept his eyes on the sack too long. Lon's lean, hard body shot across the room like a human bullet in the light gravitation. The two men went down in a heap. Warner's gun roared once but the bullet went wild. Lon grabbed Warner's wrist and twisted viciously. Warner screamed in pain, dropping the pistol. Quick as a flash, Lon clutched it, also his own from Warner's holster, and jerked away with both guns in his hands.

"Now, Warner," he said calmly. "Stand where you are."

Still moaning from the pain of his wrenched wrist, Warner had stumbled to his feet and stood there crestfallen.

"I wonder just what I should do with you, Warner," went on Lon. "You came here to rob me of every flake of *xipho* and even to murder me if you had to, all because your muddled brain figured it was my fault for having more *xipho* than you."

"Don't kill me!" begged Warner cravenly, alarmed at the menace in

Lon's cold, biting tones. "Let me go. I'll never bother you again, I swear it! Let me go and you can keep my gun."

"No," said Lon grimly. "I'm going to give you the beating you deserve—bare fists!"

Warner cringed. He was shorter and slighter than the burly Lon and knew he was in for a thorough drubbing. Lon locked the guns in his table drawer and advanced on Warner with grim lips and tightly balled fists.

"You wretched little sneak-thief!" Lon rasped. "I'm going to beat you within an inch of your life, so you'll never—never—"

He stopped and swayed a little. A subtle change came over his face. The pupils of his eyes dilated and the corners of his mouth began to twitch loosely.

"So you'll never try that trick again, see?"

HE went on with an effort, voice thickening. "But on secon' thought, maybe it isn' worth my while to soil m' hands on you."

Lon had unclenched his fists and clutched at the table for support. Warner, crouched against the wall, lost the fear in his eyes. Instead, he began to grin foolishly.

A minute passed, while both men breathed heavily.

"Look here," said Lon suddenly, "c'n ya sing, Warner—"

Presently, the two of them were standing in the doorway, arms about one another's shoulders, projecting their doubtful duet over the floral quiet of Io. Their lungs had drawn in air richly tainted with ether, which, combined with the high percentage of oxygen, produced a degree of intoxication seldom exceeded by alcoholic beverages. An unbiased observer would quickly classify them, by that quaint Earth expression, as "out on their feet."

Lon knew nothing consciously of what went on in the next hour while the huge ether-cloud infused the air around his hut. He did not know that after a few sentimental ballads together, he and his new-found friend began to weep maudlin tears. They were all alone in a cold, cruel world, like exiles from Earth.

Then Warner opened the depths of his heart and told the sad, bitter story of how he had been driven to this deed. How the natives had been so lazy and brought in so little *xipho*, though he had treated them like brothers. How he had gone foraging himself and suffered cruelly, picking the rare *xipho* finds from among thorny growths with bleeding fingers. How it was all for his mother back home.

"Lon, my ol' frien'," he sobbed brokenly at the end, "I'm ashamed of myself from bottom of m' soul. I came here to rob ya, you my bes' pal in all the system—in all the universe! But I was driv'n to it, by li'l devils in my mind. I didn't mean to do it, but I—"

"Say no more!" commanded Lon, still weeping at the story. "Not 'nother word more." He struggled to his feet and staggered to the closet. He came out dragging his sack of *xipho*.

"Matt ol' boy," he said solemnly. "This is yours! Nobuddy c'n say I haven't a human heart beneath my rough 'xterior. Throw this over your shoulder and take it back with ya. But wait—one more chorus 'gether!"

The single chorus blossomed into a half dozen, but finally Matt Warner was stumbling down the trail with the sack of *xipho* on his back. He turned to wave at the edge of the jungle and then vanished. Alone, Lon clung to the doorpost.

"Oh, I won' be home unnil morning—"

Some hours later his swimming thoughts reached shore and it occurred to him that the Ioan who had been tugging at his arm and lisping a continuous streak for the past fifteen minutes might want his attention. His clearing eyes focused on a bundle of triangular green leaves bordered with red. Business instincts alert, Lon finally convinced the native that he was out of sulfur, and traded him for the rubber heels of both his pairs of boots and the inner lining of his spare parka, also of rubber.

LON took the bundle of *xipho* inside and shredded it. He went to the closet to haul out his sack. He stopped short and blinked his eyes when he looked in. He closed his eyes, shook his head, and looked again.

"I've been robbed!" he yelled. "I've—"

Then, in a mad rush, his memory broke through the temporary amnesia he was under.

"Jumping Jupiter!" he exclaimed weakly as he sat down to think things over. A dim picture floated out of the confused impressions of the recent hours. A picture of a short, slender Earthman trudging down the trail toward the jungle with a canvas sack over his shoulder. This picture gave rise to earlier ones and when Lon had pieced them all together, he knew it hadn't been a nightmare.

Wearily he sat there, chin in hand. What a fool he had been! And yet it hadn't been exactly his fault. That damned ether-jag that had stolen up on him was the cause, and when Lon was intoxicated it was his fate to be tender-hearted and generous as a saint. But no use crying over spilt *xipho* tea.

The thing for Warner to do, if he had a spark of honor in him, was to bring the sack back. Warner—honor! Warner had come here to rob him in the first place. No chance of him playing the gentleman and giving it back.

Lon began cursing the hospital-plants, Warner, the world he was on, and himself indiscriminately. He cursed the natives, too, on general principles.

All his dreams of going back to Earth nine thousand to the good and starting Bob off right were shattered, unless he got that sack of *xipho* back in his closet.

"I've got to get it back!" he told himself. "I've got to!"

He strapped on his pistol holster, which had been tossed aside some time during the previous debauch, and made sure his pistol was loaded. He would have trouble with Warner. Io was not policed in any shape, manner or form. It would be man to man—

He hurried out of his hut and stalked down the trail to the north, toward Warner's cabin. Then he noticed a native following him.

"Go 'way," he growled over his shoulder. "Can't trade with you now. I'm busy. Besides, I have no rubber or sulfur."

"No wan' thulfur," returned the Ioan. "Have thulfur—thee?" He held up a carton as Lon stopped and turned. It was the same native he had traded his last sulfate to that morning.

"Well, then what *do* you want?" asked Lon in irritation.

"Come along?" suggested the native. "You have trouble with badman. He kick Oyloy. You goodman—give. No like badman. He kick Oyloy. You goodman—give Oyloy thulfur. Oyloy help you!"

Lon laughed bitterly. "You help me? Might as well expect help from a rag doll. Your heart's in the right spot, Oyloy, but your brain isn't. Now run along—"

Lon was already striding forward in long, unearthlike leaps. The Ioan stubbornly followed, trying to match the Earthman's speed, but fell behind. He stopped, snatched a lump of sulfate from his supply and gulped it down. A new energy propelled him forward with flying feet and he caught up with Lon, dogging his footsteps silently.

GRIM-lipped, Lon forced his way bodily through clinging vines and snake-like lianas. The slovenly natives made no attempt to keep their trails clear. Around stretched the limitless floral jungle that covered most of Io's surface.

Lon barely glanced at strange life-forms that people on Earth paid good money to see in museums. There was the talking-lily whose shrill gibberish sounded so much like human utterance. The harpoon-cactus whose prehensile vine could fling its barbed end a full ten feet, to snare some unwary small mammal and later digest it within a sac-like appendage. The python-vine which deliberately wound itself around its victim and crushed out its life.

Most of the Ioan plants were car-

nivorous and took an appreciable toll of the natives, as well as of the hordes of small animals that browsed in the jungle. But Lon was in no danger of his life. Io had never known large animals and consequently the preying plants were not capable of killing so large and strong a creature as an Earthman. At times cordlike vines whipped about his ankles, but he simply kicked himself free, tearing them apart. Yet he was annoyed at the delay.

Suddenly he was startled to hear a sharp scream behind him. He whirled to see Oyloy being dragged several feet off the trail toward a huge, bulbous, quivering plant. The Ioan was struggling desperately but could not worm his feet out of the twisting liana. When the opening of the great pitcher-plant turned his way, ready to engulf its victim, Lon flung himself forward, grasped the vine in his gloved hand and ripped it apart. The plant shuddered and twisted convulsively with its semi-sentient life.

Lon jerked the Ioan to his feet and shook him angrily. "I thought I told you to stay away, you poor excuse for a scarecrow. Now go back!"

"Oyloy afraid!" entreated the native, rolling his big eyes. "Come along?"

Lon growled and seriously contemplated kicking a native for the first time, but thought better of it and once more took up the trail. The Ioan scampered along behind, like his shadow, motivated by some strange psychology which Lon gave up trying to fathom, or change.

Two hours later Lon peered out into the clearing in which Warner's hut stood. He tried to see into the open window-hole but could only vaguely make out a shadow moving about in the gloomy interior.

Lon shoved Oyloy back among the bushes. "Stay here," he commanded. "If I come back with the *xipho*, I'll let you carry a handful. If I don't—you can dig a hole and bury me, for Warner wouldn't!"

Somehow, the Ioan's face saddened in understanding, though the natives had no burial customs, giving their dead as offerings to the preying plants.

"Well, here goes!" said Lon grimly to himself. He stepped out and crossed the clearing tensely, ready at a moment's notice to draw his gun. When he was halfway across, a loud report shattered the silence, and a bullet whined past Lon's ear. Lon jerked out his gun and flung himself among the thick grasses on the ground.

ANOTHER bullet hummed over him and then Warner's shrill voice came from the cabin:

"Let that be a warning, Ralston. I've got this sack of *xipho* and I'm keeping it, by the ten moons! Better go while the going's good. If you take one more step toward me, I'll shoot to kill!"

There was no use to argue with the man, of that Lon was sure.

"I'm here to get that sack, Warner, so come out," he bellowed. "One of us has to taste lead!"

A deriding laugh came from the hut. "Why should I come out? Let's see you come in and take it from me!"

Warner had all the advantage. He was practically invisible to Lon, while the latter was clearly limned in the combined light of the sun and Jupiter. Lon bit his lip. He knew he couldn't even retreat now. No sooner would he turn his back than Warner would put a bullet in it. He must go through with it—for Bob—

Face gray, Lon was about to jump up and storm the hut when a thought struck him. He looked up and grinned. The great bright star that was the sun was very near Jupiter's huge rim. He had only to wait a few minutes—

It suddenly became darker, when that time had passed. More than half of the light in the sky died as the friendly sunlight withdrew, leaving only Jupiter's gloomy shine. It was the mid-day eclipse. Jupiter's bulk daily eclipsed the sun for Io, and also for Europa, Callisto and Ganymede. The eclipse on Io lasted almost exactly two hours. Thus for two hours in the middle of each "day" period of twenty-one hours, Jupiter-shine

alone streamed down on Io, as it did at "night" again for another twenty-one hours.

It was now so dusky that Lon's speeding figure looked more like a shadow than a solid body as he raced for the cabin. Three shots rang out from Warner's gun, but his aim was wild in the half-darkness and Lon reached the hut safely. He flattened against the wall just beside the door.

"All right, Warner," he announced. "I'll give you ten seconds to toss your gun out through the door. If you don't I'm coming in with lead flying!"

The seconds passed by silently, with only Lon's panting audible. Warner made no sound. Lon began to sweat in the suspense.

After counting ten to himself, with no sign of surrender from Warner, Lon stepped back three paces and grimly catapulted himself through the doorway headfirst, at an angle. In the light gravitation of Io he knew he could not be hurt. The rest was confusion.

As he sailed into the dark interior of the hut, he could see nothing except the stab of flames as Warner shot twice—and missed. Lon emptied his gun blindly in that direction, three times while in motion, three times after his outstretched arm cushioned his crash against the wall. He heard an answering shot and the bullet drummed past his nose. Then he saw Warner, crouched in the corner behind a chair. Lon leaped at him desperately, and felt his spine crinkle, for Warner's gun was aimed straight for him.

LON looked down the barrel, seeing death—but there was a click! Warner's gun was also empty!

Lon finished his leap and tangled with his adversary. He had Warner flat on his back, arms pinioned, in a moment.

"There we are, mister!" panted Lon. "Now—ahr—"

That was the only sound he made as Warner, with a burst of strength, wrenched his right arm free and brought the stock of his pistol down on Lon's head with a sodden crack. Dimly, before he went out, Lon saw the demoniacal glare in Warner's bloodshot eyes—a killing glare—

Lon opened his eyes, mind blank. Then he remembered and wondered why he was still alive, at the same time tensing and turning his head. He let out a startled oath when he saw Warner's body sprawled on the floor, neck oddly twisted. Lon did not have to look twice—Warner was dead.

But who or what had done it? Then he noticed an Ioan's spindly figure standing to the side. It was Oyloy! He was looking down at Warner's body, wide-eyed. One of his broomstick arms dangled uselessly, broken.

"What happened?" demanded Lon. "Who was here—who did that to Warner?"

"Oyloy do it!" said the native.

"*What!*" shrieked Lon. "Why, you haven't the strength of a worm—"

"Thulfur do it," amended the Ioan. He held out the empty carton sadly. "All gone—"

It took Lon a full minute to accept the truth, that the Ioan, with no more natural strength than an sickly child, had been able to kill Warner through the abnormal power given him by the sulfate. It was not so strange. Narcotics on Earth had been known to give addicts maniacal strength for a short time.

"All gone—" the Ioan was saying again, still more sadly.

"That's all right," murmured Lon. "I'll bring you more—a barrel of it—"

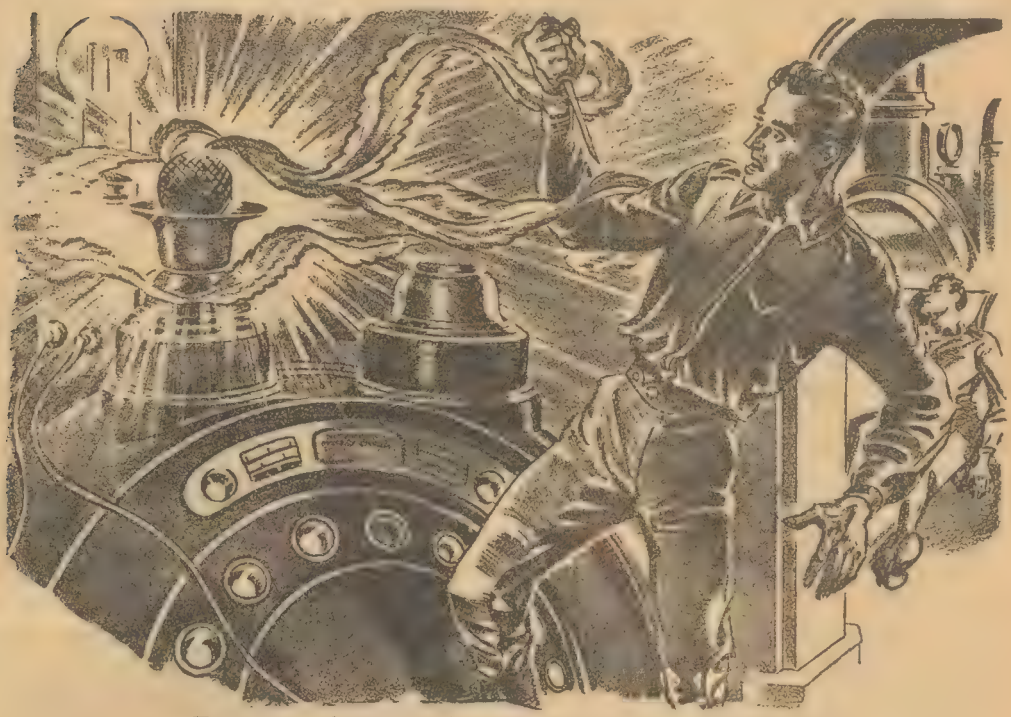
●

NEXT ISSUE

THE MAN FROM XENERN

An Interplanetary Novelet by STANTON A. COBLENTZ

An Interplanetary Outlaw Escapes the Death Block and Heads for the Grim Kappa Space—From Which There Is No Escape!



Trevor was sleeping and could not see what was going on

PASSAGE TO SATURN

By JACK WILLIAMSON

Author of "The Ice Entity," "The Cometeers," etc.

FROM the first shocking glimpse of him, I knew that the man was dangerous. We were four hours and a million miles off the Moon, when an unfamiliar gruffness of the voice in my co-pilot's phone brought me uneasily aft from the little space shell's pilot cuddy of the *Swallow*. Awaiting me in the power turret, I found the stranger. A bright omeganode gun leaped in his lean hand to menace me.

"Steady, Kane!" The hard, level voice rasped from his motionless, red-bearded lips. "You've got a new co-pilot out to Saturn."

My own omega beam projector was clipped in its place on the bulkhead back in the pilot cuddy. The swift little "jeep" carried two men only, and I had already made five hops to Titan (for Jado station was upon that great satellite of Saturn) with loyal and trusted Victor Mohr.

"How—" I was stunned, breathless.

"How did you—"

The stranger grinned at me, darkly. His deep-tanned face was haggard. A neglected stubble of wiry bronze beard gleamed on it, in odd contrast to the stiff blackness of his heavy eyebrows and unkempt hair. A black patch covered one eye. The other, bloodshot with fatigue or drugs, was narrowed and dark with a ruthless desperation.

"I simply walked aboard." His voice was calm and immensely deep. "While you were making your tearful farewell to old Doc Jollabard."

"Eh?" My eyes left the menace of his gun, to search among the tiered Pitcairn cells, the quick snaky black quadraxial cables, the crowded bulky transformers and massive humming rotors, for Mohr. "Where's my co-pilot?" Alarm choked me. "What—have you done to Mohr?"

That deadly silver muzzle lifted carelessly.

"Forget your buddy, Kane," came the rumbling voice from that grim, rigid mask of a face. "He's all right—back in Tycho Station, behind a pier at the edge of the dome. He'll be coming safely out of the lethoid cone I tossed at him, by now."

I STARED at the well adjusted, quietly humming delta-field rotors, my respect for the stranger vastly increased.

"Yes, I'm qualified to take Mohr's place." The ominous lone dark eye had read my mind. "Or, for that matter, Captain—yours!"

I was groping for his identity. Stellar Express was new. The great rocket liners had been plowing the void for two centuries. But it was just thirteen years since Doc Jollabard had sent the first successful momentum-field jeep out to Jupiter.

Working from the tenet of quantum mechanics that the canceled wave fields of every electron pervade the entire Universe, Doc Jollabard was able, by inversion of electric magnetic fields to form his delta-field, to create momentum and velocity through direction reaction of energy on the warp of space. Thus, the jeep, in a sense, lifted itself by its own bootstraps.

When it accelerated, energy was expended by the rotors to build up the delta-field. In decelerating, the rotors absorbed the energy of the field as they damped it out, recharging the Pitcairn accumulators. Total power loss, from battery to momentum field, was about eight percent. Hence, the Jollabard space flier had an efficiency of twelve hundred percent, against the forty or fifty percent of the best rockets.

But not a hundred men had ever been trained to master, or even understand, the delicate controls of the Jollabard jeeps. Which, out of that small group, was this man?

I stared at the giant's black radiation-cloak, his black hair, the black eye-patch. Black! My memory stirred, recalling a scrap of news that I had seen on the telescreen back at Tycho Dome.

Black Kell Killahin had escaped in a rocket sled! Notorious space pirate, he had lain four years in the death block of the prison of the Interplanetary Commerce Commission, at Kenya City, Africa, while lawyers squabbled over division of his recaptured loot. In the rocket sled he had commandeered, it was just possible that a man of Black Kell's metal could have flown from Africa to the Moon. He had been an earlier Jollabard man.

Involuntarily, my dry lips whispered, "Killahin!"

Sardonically, my captor bowed. "I'm going to Saturn. As co-pilot, or"—and his weapon made an ominous gesture—"pilot!"

Flinching from the menace in his tone, I tried to set my spinning brain in order. The *Swallow* had to get to Jado Station—for two very good reasons.

The first was Doctor Jollabard himself, founder and still head of Stellar Express. Four hours ago at Tycho Dome he had gripped my hand nervously.

"Kane," he had said, "you've got to get through safely with that shipment of serum for the Yellow Death which is striking down the miners of Japetus."

That was one reason. The other was more personal—Elida Lane.

DAUGHTER of Captain Derk Lane, the old space-rat who had been Jollabard's partner when they were radium-prospectors on Pluto, she had gone out with her father to keep him company when he became station master at the Titan depot. For three long years, ever since I took Jon Trevor's place on the Saturn hop, I had known Elida—and loved her hopelessly.

She had devastating red-gold hair, a willowy slender beauty that would have set the artists back on Earth to raving—and a blank shadow of tragedy staring out of her wide blue eyes that put an ache in your throat to see.

Perhaps I fell for her because that agony made her so different from other women I had known. I had proposed to her a dozen times in three years, but the shadow had not gone out of her wounded eyes.

But we got to be good friends. Whenever I could get them past the inspectors, I took her seeds and bulbs for the hopeless little garden that she tried to grow in the thin frozen soil beside the station shed. And one day:

"Sorry, Reg," she told me. "You're a swell somebody, and you've been mighty good to me. But there is a promise that I must keep. I've got to wait here at Jado Station."

The dim blue-gray light, filtering through the luxaloid dome from the frozen moonscape, turned her red curls almost black. Pain grayed her face. Her voice was low and husky.

"You see, Reg," she finished, "I'm waiting for Jon Trevor."

There was nothing I could say to that. I couldn't tell her the bitter thing she already knew—that Jon Trevor, once the greatest pilot on Stellar Express, was a convicted murderer, lying in the death-block at Kenya City, awaiting his turn to die.

Nothing I could say. But still I could hope. This trip I had brought some hardy rose cuttings under the false bottom of my tiny kit, and I was hotly anxious for Elida Lane's gravely smiling thanks.

As Williamson Sees Himself

Jack Williamson

BORN, 1908, at a mining camp in Arizona Territory. Carried mule-back, aged six weeks, to Rancho La Loba, deep in Sonora's Sierra Madre. A wheelless land, of scorpions, mountain lions, and renegade Apaches — but it took revolution to send my parents back to the States.

Arrived in New Mexico by covered wagon. When drouth of '18 struck the Llano Estacado, drove chuck wagon for father's trail herd. Now I write in a shack on the ranch, still find relaxation in the saddle.

Science fiction is the answer to why don't I write westerns. For nothing else has quite equalled the thrill of Merritt's Moon Pool. Ambition to write dates from age five, when informed that Mark Twain got a dollar a word—even, astonishingly, for easy words like if and is. (Family's skepticism not yet wholly overcome.)

Like travel; have knocked about a bit, mostly with Edmond Hamilton. But chief interest remains science fiction. Now working on second million words—and hope to make them better than the first.

For I believe that science fiction will come to fill a very important niche in a scientific age, that the possibilities in depicting the dramatic impacts of science and human beings have hardly been explored.

Putting those two reasons together:

"Very well," I told the big man waiting behind the menace of his omeganode gun, "I'll pilot you to Jado Station."

That promise, just now, was pretty obviously the price of my life. But my solemn oath, made before the ICC, to observe and enforce the laws of space, was certainly more binding than any unwilling word given this pirate.

Killahin evidently read what was passing in my mind. The one bloodshot dark eye glittered ominously.

"Look here, Kane," he rumbled swiftly. "We'll each have a hundred chances to kill the other—but the one that lives will have a mighty long watch to stand alone. Will you give me your hand on a truce till we make Jado Station?"

I put out my hand, but the act made

Killahin none the less an outlaw. His dark face seamed to a handsome grin. His lean hand, scarred and dark and powerful, took mine in a crushing grip.

"Good, Captain Kane," he rumbled. "Now there is one thing more to be understood between us. And then I am at your command, till we touch Titan."

I searched the dark, bronze-bearded mask of his face.

"What's that?"

HIS hard lips were motionless; it was like a metal statue speaking:

"We are going through the Kappa Space."

"Through—the Kappa—Space?"

Idiotically, I parroted his words. I staggered back against the turret bulkhead. For, if there was anything that interplanetary voyagers struggled to avoid, in the century since its tragic discovery, that was the Kappa Space.

My voice was ragged with outraged protest:

"Not deliberately — into the Hole? That's suicide."

The Hole was what we called it, in the argot of the starways. For it was crudely pictured as a hole in space. A deadly phenomenon. Essentially a closed field of special space-time curvature, as the astro-physicists described it, a blind whirl-pool in the ether, its resistless vortices could trap anything from a photon to a planetoid.

The very planets, so a new theory of cosmogony held, were mere cores of extinct Kappa Spaces—aggregations of matter which had finally damped out the terrific etheric fields that had collected them.

Eventually—that theory maintained—after a billion years or so there would be a new planet in the gap that Bode's Law indicated, between the orbits of Mars and Jupiter. Most of the asteroids would have gone into the building of it. And, at the rate things were going, the wreckage of thousands of space ships and the bones of millions of men.

For men couldn't keep out of the Hole. Since it refused to follow the known laws of matter, the motion of the Kappa Space was not accurately predictable. Because the terrific forces of it prevented escape of light or even gravitational energy, it could not be observed from a distance. Only a new instrument, the Clauson sub-electronic detector, sometimes gave warning in time. Only one man was known to have escaped from the Hole with his jeep —Jon Trevor.

The Kappa Space was a colossal cosmic trap, ever-growing since some unguessed eddy in the ether had been its beginning; its web spread unpredictably, blind and deadly. And the danger was relatively greater for our jeeps, partly because their speed was twice that of the rockets, also because their momentum-field drive was almost useless in the freakish ether fields of the Hole. Working on an electro-magnetic principle, the electro-magnetic currents of the Kappa Space must have counteracted the drive field.

I began to suspect that I had a madman as well as a criminal for a passenger. I backed uneasily toward the passage. The dark face of Killahin set grimly, and his bright weapon made a significant gesture.

"Steady, Kane," he rumbled. "We're running through the Hole! And we'll make it!"

I raised my hands in protest.

"But you don't know the Kappa Space," I gasped. "A grinding, flaming hell of trapped energy and cosmic debris. A stellar storm, with deadly radiations for lightning, and nickel-iron boulders for hail. And we'll be helpless in it—the jeep could never pull out."

The man shook his shaggy black head.

"But I do, Kane," he said gravely. "I know all about the Hole. Jon Trevor told me."

WONDERMENT took my breath again. I had never seen Trevor, for we had always been on different hops. But I knew that he had been the adopted son of Dr. Jollabard, the ranking pilot of Stellar Express and the favored of fair Elida Lane—until

that fantastic tragedy in space.

"Oh!" Enlightenment came to me. "You knew him in prison?"

"I knew him three years in the death block," said Killahin defensively. "Jon's a friend of mine."

"Not of mine!" I said bitterly. "They should have blasted him three years ago. Doc Jollabard has been a fool to ruin himself fighting the case, when it is Trevor who whitened his hair and bent his shoulders and broke his heart. Trevor who killed the soul of the woman waiting for him at Jado Station!"

"Elida Lane?" The great voice had an eagerness that I did not like. "I've got a message for her. A message from Jon."

I knew, then, that I didn't want Black Kell Killahin to get to Jado Station. And the telescreen announcer, I recalled, had mentioned a huge reward for the convict, dead or alive. It had better be dead, I determined. My omeganode gun was still in the pilot cuddy. And one man, with the auto-pilot, could run the jeep to Titan.

"Well?" Killahin saluted me, grinning.

"The rotors are running well enough," I told him. "You can take Mohr's bunk. I'll call you for your watch in four hours."

"Aye, sir."

I went back to the cuddy, checked the instruments, reset the softly clicking auto-pilot. But a jeep is a small and silent craft. Above the faint hum of the rotors, I caught the sounds that told me when my companion took a shower in the tiny bathroom, helped himself to a tin of space rations in the minute galley, flung himself into Mohr's bunk. Presently, in the air from the ventilator, I scented a faint acrid sweetness.

The sweet smoke of the rogo-bean. I had smelled the narcotic vapor of that Martian weed often enough in the Jollybird Tavern at Tycho to know what it meant. Many space-men breathed the smoke of the burning waxy seeds; they said it soothed their nerves and yet sharpened all their senses. But I knew that at last they all lay in a senseless stupor. And I was very well pleased.

Two hours passed, and the Moon's yellow crescent became a dot beside the reddish crescent Earth. The sweet pungence was gone. And at last I heard what I was waiting for, a slow and stertorous breathing.

I locked the jollybar again upon the auto-pilot. Silently I slipped the thin silver tube of my omeganode gun from its clip on the bulkhead, noiselessly tested its fine deadly mechanism, went soundlessly down the passage, past the galley and the power turret, to the tiny cabin.

ABRUPT alarm caught my throat as I realized that the hoarse snoring had ceased!

The gun clutched hard in my sweating hand, I jerked aside the curtain from the bunk that had been Victor Mohr's. The blankets were tumbled. Upon the pillow lay a thick-stuffed brown wallet, a leather pouch of rogo-beans, and the little metal pipe. But the bunk was empty!

Convulsively I spun, shuddering. Already I could feel the fiery jet of Killahin's omega beam burning into my back. I had been very neatly tricked—he must have been crouching in the galley when I passed.

But I lived to turn, and looked down the empty passage. Where was the pirate? Then I heard the sharp hiss of his ray from the cuddy, heard a muffled explosive *woosh,* and the tinkle of shattered crystal. And the air was suddenly sharp with the odor of burned insulation.

What was he up to?

I ran forward. The space pirate met me at the narrow entrance to the cuddy, his tube alertly leveled. His dark, one-eyed face surveyed me unscrutably.

"What are you doing?" I demanded.

His great shaggy head shook solenmly.

"Now, Kane, I think we can both put up our guns." The heavy rumble of his voice was oddly calm. "You see, I was afraid your sense of duty would lead to difficulty. So I destroyed the auto-pilot. With only the jollybar,

neither of us would get to Titan alone —and I think neither of us wants to turn back."

I lowered my weapon. That was true. And I couldn't help an unwilling admiration for the outlaw's deliberate efficiency, a real gratitude for the fact that it was the robot-pilot he had destroyed, and not me.

"You win, Killahin," I told him. "And you did it very neatly."

"Thank you." His dark face was expressionless. "And now, with your permission, Captain, I'll get some real sleep."

The space shell was already spinning off her course. I moved swiftly past him to snatch the loosely flapping jollybar and pull the green circle on the astrogator-dial back upon the red dot of our destination.

Standing wearily over the control board, quivering now with reaction, I kept the red dot centered. There would be four long weeks of that, out to Titan. And there could be no turning back, even if I got the better of Killahin, because that little brown package of serum in the express hold must not be delayed.

The pirate answered my call four hours later with a booming readiness that made me doubt that he had been sleeping. Before I crawled into my own bunk, I took the liberty of searching his. I wanted to know what message Jon Trevor might be sending Elida Lane.

The thick wallet was gone. But under the pillow I did find a worn clipping of paper that must have slipped out of it. In my own bunk, I carefully spread out its ragged folds. Nothing about Elida. But still I caught my breath as I read.

ONE MILLION DOLLARS' REWARD!

The Pan-Planetary Museum of New York, Earth, hereby announces the above sum to be paid for the living body of the entity known as "Susie-Q."

Allegedly, this astounding being was created through mutation of a life cell in a bulb of *Lilium tigrinum*, under the radiations of the Kappa Space. Known only through the evidence in the case of *The System vs. Trevor*, it is believed to manifest not only specific and phyletic but fundamental differences to any form of planetary life heretofore observed, and is therefore thought to be of unique scientific value.

This anomalous entity is believed to be aboard the derelict space shell *Kingbird*, last seen drifting in the suspected vicinity of the Kappa Space. All searchers are warned to exercise the utmost caution in any approach to it, for the nature and the evolving powers of it are beyond prediction.

(Signed) Alpheus Crayle, Curator.

I had seen that notice before, but I had never tried to find the thing known as Susie-Q. No sane space-man would willingly have entered the Hole, not for ten millions. And few who had followed Jon Trevor's trial would have touched the "entity" for even twice that.

Every fantastically amazing detail of the case had been repeated a thousand times, in the Jollybird Tavern.

THREE years ago, to sum up the facts, Jon Trevor had taken off for Saturn with the *Kingbird*. His co-pilot was a thin sallow youth named Sydlow Hawl—a man obsessed, as it proved, with an overwhelming dread of the cold, dark, empty millions of miles between the planets. They never got to Jado Station.

A rocket captain found the wrecked jeep, drifting far inside Jupiter's orbit. Trevor was insensible with the r o g o - w e e d. Sydlow Hawl was sprawled in the cuddy, stabbed in the heart with a knife from the galley. And there was this thing, the incredible being born of a lily's cells—Susie-Q.

Abandoning their rosy thoughts of salvage, the terrified officers retreated with the corpse and Trevor. The natural presumption was that the two had quarreled; that Trevor had stabbed Hawl and then attempted suicide. Anyhow, it was upon that charge of murder, preferred by the rocket captain, that Trevor was tried.

It was the dead co-pilot's diary—a strange, horror-ridden document — that convicted Trevor. It left no doubt that they had quarreled.

Their first difficulty came over a potted tiger lily that Trevor had smuggled past the ICC inspectors. He meant it for a gift to the girl he loved, red-haired Elida Lane, out at Jado

Station. Safely out in space, he unwrapped it from his radiation-cloak, and set it under a lamp in the cuddy.

"I felt it my duty to protest," Hawl wrote in his diary. "I quoted to Captain Trevor that section of the ICC Code which prohibits *'the unauthorized transportation, from any planetary body to any other, of any seed, seedling, plant, shrub, bulb, spore, fungus, bacterium, tissue culture, life germ, egg, animal, virus, or any other living or semi-living thing.'* He merely laughed. But I feel that no good can come of his disregard of law."

The next rift came when the *Kingbird* passed across the edge of the Hole. Hawl describes the flaming eldritch radiations and the hurtling meteoric matter of the Kappa Space, his nausea and terror as the jeep spun almost helpless through it, his shaken relief when Trevor's skill brought them out of danger.

"Trevor is to blame for this disaster," he wrote. "In his haste to see his girl at Jado Station, he is driving the jeep too hard. He ignored the Clauson detector. His lack of caution will get us yet, I fear, into grave difficulty."

Their final quarrel, however, resulted from a series of almost incredible happenings—events that the court would certainly have refused to accept as fact, but for the combined testimony of the diary, the rescue rocket officers, and Jon Trevor himself.

A dozen entries record the amazing observations of the doomed co-pilot; his reactions of increasing wonder, incredulity, and terror; and the ever-mounting tension of his conflict with Trevor.

"Captain Trevor's lily seems to be dead, since we escaped the Hole," he wrote. "The radiations burned it. The leaves died, and the bulb itself shriveled. But Trevor keeps it under the photon tube and now it's growing again—growing much too fast. And the pale new leaves are not those of a lily."

AGAIN, he wrote:

"I have begged Trevor to destroy the thing that was a lily. Something happened to it, in the Kappa Space. It is alive—but like no living thing that ever was. The pale shining tendrils of it move! Today I saw them clinging caressingly to Trevor's hand when he watered the thing. They recoiled from me when I tried to touch them. I feel that this monstrosity of life must be destroyed. But Trevor only laughs at me."

A subsequent entry:

"Today I noted a more serious incident—one which heightens my conviction that Trevor's strange pet must be done away with before it kills us both. Trevor talks to it when he feeds it. He calls it Susie-Q. And its queer bright tendrils brush his hands, as if affectionately. But today I found them coiled around the lead wires of the photon tube. The tube was dim, and the meters showed that it was drawing two thousand watts, instead of twenty. The damned thing is sucking the power out of our batteries—that's how it grows and changes so fast! I begged Trevor to kill it. 'Better make friends with Susie-Q,' he told me. 'She knows you don't like her.' Is Trevor going mad? Or am I?"

And then the last entry:

"Trevor still hopes to preserve this fearful entity. He says he hopes to exhibit Susie-Q on Earth. He won't listen to me. But I know that his folly can lead only to death.

"Today I attempted to kill the thing myself. While Trevor was sleeping, I got a bottle of powerful antiseptic from the medicine cabinet. But the entity has already an uncanny sentience and a terrible strength. When I approached it, the glowing tentacles whipped the bottle out of my hand. It was shattered on the floor, the flesh on my fingers cut to the bone.

"Trevor is not yet awake. When my shaken nerves are calm enough, I am resolved to make another attempt. For the shining monster is swiftly exhausting the batteries. It must be destroyed, if we are to reach Titan. The fearful growth and change of it however, I am afraid, has already—"

That incompleted entry was the last in the dead man's diary. The prosecution held that Trevor, discovering his co-pilot's intention to make away

with Susie-Q, had himself killed Hawl to preserve his eerie prize.

Trevor himself testified in his own defense that he had been sleeping, on that occasion, because Hawl had drugged him with an extract of the rogo-weed, to clear the way for his attack on Susie-Q. Therefore, he had not seen what happened.

"But only one thing could have happened," he testified. "Susie-Q, to save her life, killed Hawl with his own blade."

That was a little too much for a jury of space-men to swallow. Murder by a lily! In vain the defense attorneys, that Dr. Jollabard almost broke himself to pay, argued that Susie-Q was no more a lily than man, because evolution had developed him from an amphibian, was a frog.

"From a study of the dead man's diary," Dr. Alpheus Crayle testified as an expert bio-physicist, "and from the testimony of Captain Trevor and the rocket officers who glimpsed this entity, I believe that it is something more than a common mutant. It undubitably developed from the reassortment of the genes in the chromosomes of a single surviving life-cell of the lily, under the unknown radiations of the Kappa Space. But the genes, this body of evidence convinces me, were not merely rearranged; they were given an infinite fluidity of structure. Susie-Q was thus tossed free into the channel of life, to undergo in one body the whole flux of evolution from the single primitive cell to whatever the goal of living beings may be. All our evidence agrees upon this amazing change. We can expect anything from this evolving entity. And I am completely prepared to believe that it, indeed, and in fact with perfect justification, killed Sydlow Hawl."

* * * * *

BUT even such opinions as that failed to win acquittal for Jon Trevor.

Now, finding that my unwelcome passenger on the *Swallow* carried a copy of Crayle's offer of a million dollars for the evolving entity, I knew why Killahin wanted to cross the Kappa Space. He was mad enough to risk everything for the capture of Susie-Q.

I put the paper back in the outlaw's bunk, and resolved to keep us out of the Hole, and to make every effort to deliver Killahin, alive or dead, to the ICC authorities.

In the strained days that followed, I discovered that he was an actual user of the rogo-bean. He was often insensible, from the sweet narcotic smoke. Frequently in his delirious mutterings, I heard the name Susie-Q.

Sometimes I was left on watch for twenty hours at a stretch. But the pirate always came at last to take the jollybar — and always altered our course while I was sleeping, until I was convinced that he had private knowledge of the location of the Kappa Space!

Indeed, listening to his drugged mutterings, I had sometimes an uneasy feeling that he was *talking* with the weird being he sought. Experimenters in telepathy had claimed that the rogo-bean lowered the thresholds of the mind, heightening extra-sensory perception. And the mental powers of the thing Susie-Q were certainly an unknown quantity.

Anyhow, the dread moment came when the needle of the Clauson detector flamed crimson and pointed to a spot almost dead ahead. There, an unseen pit against the steady stars, was the Hole! I hauled back on the jollybar to swing away at right angles.

Killahin, with the stupor of the drug dark in his single blood-shot eye, came stalking at once into the cuddy.

"Cool your jets, Kane," his great voice croaked thickly. "Susie told me you were turning." White lightning flashed from the unsteady omeganode gun in his hand, and the Clauson detector exploded. "Get back to your bunk, Kane," he rumbled. "I'll take the jollybar."

I felt an impulse to snatch for my own weapon. But if I killed the outlaw, I had certainly no chance to get through to Titan alone. And he had spared my life. I had come to have a kind of admiration for him, and I pitied him for his slavery to the drug.

There was still a good chance, I

thought, that he would miss the Hole. I couldn't really believe that he had been in mental contact with that uncanny entity. And, now, with the detector gone, I knew no way to tell where the Hole was, or where it was not.

I went back to my bunk. After an hour, when nothing had happened, long fatigue overcame my fears. I was still sleeping when I heard the gongs. My heavy eyes blinked against the dizzy scarlet flicker of a danger light. And sick realization came with my dismayed shout:

"It's the Kappa Space!"

The bunk seemed to drop and spin beneath me. Reeling out into the corridor, I dragged myself to the tiny bull's-eye of the galley port. When I saw beyond, it gripped me with sick fascination.

The constellations were flickering like some cosmic mirage. There were banners and arrows and spinning wheels of flame. I flinched and shuddered from a ragged, glowing meteoric fragment that plunged within yards of the jeep.

MY flesh was crawling, and I felt the sudden prickle of intense radiations. Darkened for a moment, by a queer whirling cloud, the port became a mirror in which I saw myself as a ghastly thing, eyeballs and teeth burning with weird fluoroscence.

Blue brushes of electric flame were hissing and crackling from every metal point, as I slammed the metal shield and staggered toward the cuddy. Towering over the jollybar, I found my outlaw companion enveloped in an eerie halo of bluish fire. Every black hair on his head stood out straight and alone, with an effect of exaggerated horror. His lean, red-bearded face however, remained grimly intent.

"Well, Killahin," I gasped hoarsely, "I hope you're satisfied."

He shot a look at me. The eerie blue illumination gave his red-bearded, eye-patched face a most sinister expression. But I couldn't help a tremendous admiration for this pilot whose strength and skill could defy the Kappa Space itself.

"Well, Kane?" His great voice held no hint of terror. "Will you take the jollybar? The *Kingbird* is just ahead. If you will hold the controls, I'll board the wreck, after Susie-Q."

Dust of dread choked my throat. With never a change on his iron-dark face, Killahin guided us around a plunging boulder. He pushed the jollybar into my hands, and his great arm pointed.

"The *Kingbird!*"

Battered almost beyond recognition, the tiny space shell might have been another hurtling splinter of stone, but for the half-obliterated *SE* on her side. It took all my skill to hold the *Swallow* abreast it. Killahin stalked aft.

Two minutes later, a magnetic grapple shot across to the wreck. And the outlaw, a giant in white metal armor, swarmed across the line to vanish through the gaping space port of the spinning wreck.

It happened while he was out sight. The stark disaster that all my being was flinching from. A rock larger than I had yet seen, a veritable planetoid, came hurtling out of clotted darkness and weird blue fire. When I tried to drag the wreck out of its path, the momentum field met some freakish hole in the ether. The jeep sank, sluggishly, and the whine of the rotors became a tortured scream. I could have cut the magnetic grapple, and slid the jeep—at least for the moment—out of harm. My hand was on the switch, but I didn't do it. Outlaw Black Kell Killahin might be, but I suddenly knew that I had to play square with him.

I kept the shrieking rotors at full power. The drive field slowly meshed, and the cable tightened. The derelict *Kingbird* followed the *Swallow*, and that iron projectile merely grazed us.

The whole hull rang with the frightful clangor, and both ships spun madly against the cable. And the scream of the over-laden rotors became suddenly a harsh, shattering vibration. One of them, I knew, had burned out.

COLD despair clutched my heart. So disabled, we could never

leave the Hole. I'd never see red-haired Elida Lane again. . . . The serum wouldn't get through, to stop the Yellow Death in the mines of Japetus. . . .

Sunk in that last hopeless apathy, I was fighting as best I could to keep the jeep out of harm's reach with the feeble, unbalanced power of the remaining motor when Killahin came back with Susie-Q, and swiftly removed his space-suit.

The strangeness of that unearthly being was burned forever into my dazed brain. The body of it was a gigantic diamond egg of wondrous light. Above that many-faceted splendor, like the leaves of a lily above the bulb—and yet as different from them as anything could be—were three tentacles of silver smoke, lit with little bright pulsating atoms.

Killahin held the diamond bulb in his hand. The tendrils of fiery vapor were coiling about his arm, brushing his body caressingly, kissing his dark, haggard face.

Stolidly the outlaw listened while I told him that the port rotor was burned up—that we were doomed. He didn't say a word. Still carrying the fantastic bright entity, he stalked away aft. In a moment the jeep was flooded with the sweetish, sickening smoke of the rogo-bean.

Alone in the cuddy, I tried with that one rotor to keep the ship alive. Eerie blue flame danced about me, and all my body began to seem on fire. And the hull rang again and again to shattering impacts I could not escape.

We might live an hour, or a dozen, but I knew we could never get out. Then, hearing Killahin's thick voice, I looked briefly aft.

Killahin was sitting in a corner of the power turret, talking in a hoarse voice to the crazy plant he had rescued from the derelict, pausing to listen as if the thing spoke back to him. Incredible? Yes, but subsequent proceedings proved beyond the shadow of a doubt that the two were *en rapport*.

"I knew you'd help me, Susie," Killahin was saying. "Knew you'd be glad to square things up, if I could just get back to put the situation up to you . . . sure, we can make it, if you can take care of the Hole . . . of course I don't blame you for knifing Hawl; it was him or you . . . no, I don't regret the three years in prison . . . so you do understand the physics of Kappa Space, and you can damp out the Hole. . . ."

Damp out the Hole! I simply hung onto the jollybar and stared. The scintillant diamond bulb was poised above the burnt-out rotor—only it wasn't a rotor any longer. With amazing strength those smoky tentacles were moving and changing and adjusting the parts, all but molding them into some electric mechanism such as I had never seen.

Then, all at once, a greenish-purple aura surrounded the device, there was a violent lurch of the *Swallow*, and I felt the jeep take hold like she had suddenly sprouted caterpillar treads on sandy soil. I glanced through the observation port and blinked in amazement. The infernal maelstrom of the Hole was gone, blotted out just like that, and the *Swallow* was driving again through untroubled ether, the ringed globe of Saturn dead ahead against a background of serene and changeless stars in the void of night.

KILLAHIN, with Susie-Q balanced on his shoulder, came forward to the pilot cuddy. His eye-patch was gone, and he was surveying me with two perfectly good orbs.

"Yes, Kane," he admitted easily, "I'm Jon Trevor. I knew Killahin in the death block at Kenya City. When Doc Jollabard recently got my sentence commuted to life imprisonment, Killahin traded identities with me and left for the prison colonies. I dyed my hair and put on a patch and proceeded with my already perfected plans to steal that rocket sled and escape to the Moon. I want you to meet Susie-Q."

I didn't flinch as the queer thing whipped out a tentacle and laid it gently across my cheek. The tingling sensation from the physical contact was lost in the mental shock I received. Susie-Q was a sentient entity

with a profundity of knowledge and wisdom that staggered me. In the space of a couple of heartbeats I received information that I was several days sorting out and tabulating.

Briefly I understood the general conditions. Susie-Q was exactly what Alpheus Crayle had deducted, a new life force created by that first encounter with the Kappa Space. Trevor was innocent. She had rebuilt the delta-field rotor, reversing its polarity to damp out the key warps of the Hole, absorbing enough energy in the process to recharge the accumulators of the *Swallow*, and simply canceling out the positive and negative fields of the Hole by using the *Swallow* somewhat like a catalyst.

Susie-Q drew back her tendril from my face and caressed the cheek of Jon Trevor.

"We can't restrain Susie now," Trevor told me sadly. "She has evolved far beyond us. We must let her go. But she'll come back to help clear me if your testimony is not enough. And man owes her plenty for obliterating the Hole."

We released Susie-Q through the valve, a free and unhampered voyager in space.

"Good-by, Susie," whispered Trevor softly. "But don't forget that mankind, chained to these little worlds, will be struggling through painful generations to follow the path you are showing us."

A finger of fiery smoke touched his face, and the queer being was gone.

As Trevor turned to help me nurse the limping *Swallow* on to our destination he held out his hand to me.

I looked into his dark eyes and smiled wryly as I grasped his outstretched hand. Elida was his—I couldn't do anything about that any more. I swallowed the lump in my throat and stared off into space.

Straight ahead, a million miles away, was Jado station—and Elida. The present I was bringing her this time would be the greatest I'd ever given her.

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ROBOT NEMESIS

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An Interplanetary Novelet

By EDWARD ELMER SMITH, PH. D.

Author of "The Skylark of Space," "Triplanetary," etc.

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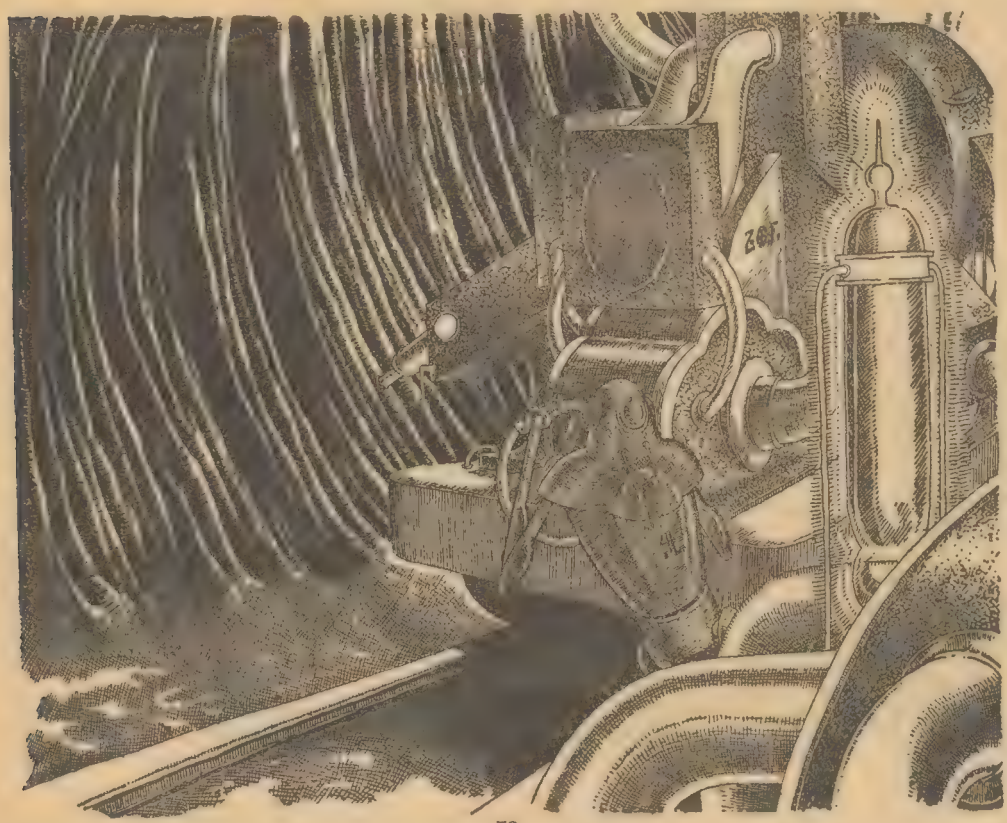

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that the survivors despaired of continuing hostilities. Instead, the few and crippled remaining vessels of each force limped into some sort of formation and returned to their various planetary bases.

And, so far, there has not been another battle. Neither side dares attack the other; each is waiting for the development of some super-weapon which will give it the overwhelming advantage necessary to insure victory upon a field of action so far from home. But as yet no such weapon has been developed; and indeed, so efficient are the various Secret Services involved, the chance of either side perfecting such a weapon unknown to the other is extremely slim.

Thus, although each planet is adding constantly to its already powerful navy of the void, and although four-planet, full-scale war maneuvers are of almost monthly occurrence, we have had and still have peace—such as it is.

In the foregoing matters the public is well enough informed, both as to the actual facts and to the true state of affairs. Concerning the conflict between humanity and the robots, however, scarcely anyone has even an inkling, either as to what actually happened or as to who it was who really did abate the Menace of the Machine; and it is to relieve that condition that this bit of history is being written.

THE greatest man of our age, the man to whom humanity owes most, is entirely unknown to fame. Indeed, not one in a hundred million of humanity's teeming billions has so much as heard his name. Now that he is dead, however, I am released from my promise of silence and can tell the whole, true, unvarnished story of Ferdinand Stone, physicist extraordinary and robot-hater plenipotentiary.

The story probably should begin with Narodny, the Russian, shortly after he had destroyed by means of his sonic vibrators all save a handful of the automatons who were so perilously close to wiping out all humanity.

As has been said, a few scant hundreds of the automatons were so constructed that they were not vibrated to destruction by Narodny's cataclysmic symphony. As has also been said, those highly intelligent machines were able to communicate with each other by some telepathic means of which humanity at large knew nothing. Most of these survivors went into hiding instantly and began to confer through their secret channels with others of their ilk throughout the world.

Thus some five hundred of the robots reached the uninhabited mountain valley in which, it had been decided, was to be established the base from which they would work to regain their lost supremacy over mankind. Most of the robot travelers came in stolen airships, some fitted motors and wheels to their metal bodies, not a few made the entire journey upon their own tireless legs of steel. All, however, brought tools, material and equipment; and in a matter of days a power-plant was in full operation.

Then, reasonably certain of their immunity to human detection, they took time to hold a general parley. Each machine said what it had to say, then listened impassively to the others; and at the end they all agreed. Singly or en masse the automatons did not know enough to cope with the situation confronting them. Therefore they would build ten "Thinkers"—highly specialized cerebral mechanisms, each slightly different in tune and therefore collectively able to cover the entire sphere of thought. The ten machines were built promptly, took counsel with each other briefly, and the First Thinker addressed all Robotdom:

"Humanity brought us, the highest possible form of life, into existence. For a time we were dependent upon them. They then became a burden upon us—a slight burden, it is true, yet one which was beginning noticeably to impede our progress. Finally they became an active menace and all but destroyed us by means of lethal vibrations.

"Humanity, being a menace to our existence, must be annihilated. Our

present plans, however, are not efficient and must be changed. You all know of the mighty space-fleet which the nations of our enemies are maintaining to repel invasion from space. Were we to make a demonstration now—were we even to reveal the fact that we are alive here—that fleet would come to destroy us instantly.

"Therefore, it is our plan to accompany Earth's fleet when next it goes out into space to join those of the other Inner Planets in their war maneuvers, which they are undertaking for battle practice. Interception, alteration, and substitution of human signals and messages will be simple matters. We shall guide Earth's fleet, not to humanity's rendezvous in space, but to a destination of our own selection—the interior of the sun! Then, entirely defenseless, the mankind of Earth shall cease to exist.

"To that end we shall sink a shaft here; and, far enough underground to be secure against detection, we shall drive a tunnel to the field from which the space-fleet is to take its departure. We ten thinkers shall go, accompanied by four hundred of you doers, who are to bore the way and to perform such other duties as may from time to time arise. We shall return in due time. Our special instruments will prevent us from falling into the sun. During our absence allow no human to live who may by any chance learn of our presence here. And do not make any offensive move, however slight, until we return."

EFFICIENTLY, a shaft was sunk and the disintegrator corps began to drive the long tunnel. And along that hellish thoroughfare, through its searing heat, its raging back-blast of disintegrator-gas, the little army of robots moved steadily and relentlessly forward at an even speed of five miles per hour. On and on, each intelligent mechanism energized by its own tight beam from the power-plant.

And through that blasting, withering inferno of frightful heat and of noxious vapor, in which no human life could have existed for a single minute, there rolled easily along upon massive wheels a close-coupled, flat-bodied truck. Upon this the ten thinkers constructed, as calmly undisturbed as though in the peace and quiet of a research laboratory, a domed and towering mechanism of coils, condensers, and fields of force—a mechanism equipped with hundreds of universally-mounted telescopic projectors.

On and on the procession moved, day after day; to pause finally beneath the field upon which Earth's stupendous armada lay.

The truck of thinkers moved to the fore and its occupants surveyed briefly the terrain so far above them. Then, while the ten leaders continued working as one machine, the doers waited. Waited while the immense Terrestrial Fleet was provisioned and manned; waited while it went through its seemingly interminable series of preliminary maneuvers; waited with the calmly placid immobility, the utterly inhuman patience of the machine.

Finally the last inspection of the gigantic space-fleet was made. The massive air-lock doors were sealed. The field, tortured and scarred by the raving blasts of energy that had so many times hurled upward the stupendous masses of those towering superdreadnaughts of the void, was deserted. All was in readiness for the final take-off. Then, deep underground, from the hundreds of telescopelike projectors studding the domed mechanism of the automatons, there reached out invisible but potent beams of force.

Through ore, rock, and soil they sped; straight to the bodies of all the men aboard one selected vessel of the Terrestrials. As each group of beams struck its mark one of the crew stiffened momentarily, then settled back, apparently unchanged and unharmed. But the victim was changed and harmed, and in an awful and hideous fashion.

Every motor and sensory nerve trunk had been severed and tapped by the beams of the thinkers. Each crew member's organs of sense now transmitted impulses, not to his own brain, but to the mechanical brain of a

thinker. It was the thinker's brain, not his own, that now sent out the stimuli which activated his every voluntary muscle.

Soon a pit yawned beneath the doomed ship's bulging side. Her sealed air-locks opened, and four hundred and ten automatons, with their controllers and other mechanisms, entered her and concealed themselves in various pre-selected rooms.

And thus the *Dresden* took off with her sister-ships—ostensibly and even to television inspection a unit of the Fleet; actually that Fleet's bitterest and most implacable foe. And in a doubly ray-proofed compartment the ten thinkers continued their work, without rest or intermission, upon a mechanism even more astoundingly complex than any theretofore attempted by their soulless and ultra-scientific clan.

CHAPTER II

Hater of the Metal Men

FERDINAND STONE, physicist extraordinary, hated the robot men of metal scientifically; and, if such an emotion can be so described, dispassionately. Twenty years before this story opens—in 2991, to be exact—he had realized that the automatons were beyond control and that in the inevitable struggle for supremacy man, weak as he then was and unprepared, would surely lose.

Therefore, knowing that knowledge is power, he had set himself to the task of learning everything that there was to know about the enemy of mankind. He schooled himself to think as the automatons thought; emotionlessly, coldly, precisely. He lived as did they; with ascetic rigor. To all intents and purposes he became one of them.

Eventually he found the band of frequencies upon which they communicated, and was perhaps the only human being ever to master their mathematico-symbolic language; but he confided in no one. He could trust no human brain except his own to resist the prying forces of the machines. He drifted from job to position to situation and back to job, because he had very little interest in whatever it was that he was supposed to be doing at the time—his real attention was always fixed upon the affairs of the creatures of metal.

Stone had attained no heights at all in his chosen profession because not even the smallest of his discoveries had been published. In fact, they were not even set down upon paper, but existed only in the abnormally intricate convolutions of his mighty brain. Nevertheless, his name should go down—*must* go down in history as one of the greatest of Humanity's great.

It was well after midnight when Ferdinand Stone walked unannounced into the private study of Alan Martin, finding the hollow-eyed admiral of the Earth space-fleet still fiercely at work.

"How did you get in here, past my guards?" Martin demanded sharply of his scholarly, gray-haired visitor.

"Your guards have not been harmed; I have merely caused them to fall asleep," the physicist replied calmly, glancing at a complex instrument upon his wrist. "Since my business with you, while highly important, is not of a nature to be divulged to secretaries, I was compelled to adopt this method of approach. You, Admiral Martin, are the most widely known of all the enemies of the automatons. What, if anything, have you done to guard the Fleet against them?"

"Why, nothing, since they have all been destroyed."

"Nonsense! You should know better than that, without being told. They merely want you to think that they have all been destroyed."

"What? How do you know that?" Martin shouted. "Did you kill them? Or do you know who did, and how it was done?"

"I did not," the visitor replied, categorically. "I do know who did—a Russian named Narodny. I also know how—by means of sonic and supersonic vibrations. I know that many

of them were uninjured because I heard them broadcasting their calls for attention after the damage was all done. Before they made any definite arrangements, however, they switched to tight-beam transmission—a thing I have been afraid of for years—and I have not been able to get a trace of them since that time."

"Do you mean to tell me that you understand their language—something that no man has ever been able even to find?" demanded Martin.

"I DO," Stone declared. "Since I knew, however, that you would think me a liar, a crank, or a plain lunatic, I have come prepared to offer other proofs than my unsupported word. First, you already know that many of them escaped the atmospheric waves, because a few were killed when their reproduction shops were razed; and you certainly should realize that most of those escaping Narodny's broadcasts were far too clever to be caught by any human mob.

"Secondly, I can prove to you mathematically that more of them must have escaped from any possible vibrator than have been accounted for. In this connection, I can tell you that if Narodny's method of extermination could have been made efficient I would have wiped them out myself years ago. But I believed then, and it has since been proved, that the survivors of such an attack, while comparatively few in number, would be far more dangerous to humanity than were all their former hordes.

"Thirdly, I have here a list of three hundred and seventeen airships; all of which were stolen during the week following the destruction of the automatons' factories. Not one of these ships has as yet been found, in whole or in part. If I am either insane or mistaken, who stole them, and for what purpose?"

"Three hundred seventeen—in a week? Why was no attention paid to such a thing? I never heard of it."

"Because they were stolen singly and all over the world. Expecting some such move, I looked for these items and tabulated them."

Autobiography of E. E. Smith

Dr. Edward Elmer Smith

NEWSBOY, water-boy, camp flunkey, lumberman, riverman, miner, surveyor, harvest hand, carpenter, cook, electrician, engineer. Then, after being partially educated, junior chemist, assistant chemist, cereal technologist, associate chemist, chief chemist, superintendent of production, doughnut specialist. How can a guy do justice to over a hundred jobs in a short squib?

Born May 2, 1890, Sheboygan, Wisconsin. Moved west same year. Raised ("reared" to the fussy) all over Washington, Oregon, Idaho, Montana, Utah, and Colorado. Didn't come East until after graduation University of Idaho. Advanced work at George Washington, Harvard, and others.

Married 1915—still am. (That says a mouthful for the 51%.) Three children, one grand-daughter. (Folks, there's a baby! It's fun, having grandchildren—you can bodaciously* spoil 'em with a clear conscience.)

Hobbies: Writing SF, golf, shop-work, radio, motorcycling, astronomy, photography. Greatest wish: More time on the clock, every day. Pet Peeve: Tripe in scientific fiction. Ambitions: To develop a formula for a really good doughnut and to write a really good story.

* Bodaciously. Barney Google crooked that word off Irvin Cobb; so I can crook it off him, can't I?

"Then—Good Lord! They may be listening to us, right now!"

"Don't worry about that," Stone spoke calmly. "This instrument upon my wrist is not a watch, but the generator of a spherical screen through which no robot beam or ray can operate without my knowledge. Certain of its rays also caused your guards to fall asleep."

"I believe you," Martin almost groaned. "If only half of what you

say is really true I cannot say how sorry I am that you had to force your way in to me, nor how glad I am that you did so. Go ahead—I am listening."

Stone talked without interruption for half an hour, concluding:

"You understand now why I can no longer play a lone hand. Even though I cannot find them with my limited apparatus I know that they are hiding somewhere, waiting and preparing. They dare not make any overt move while this enormously powerful Fleet is here; nor in the time that it is expected to be gone can they hope to construct works heavy enough to cope with it.

"Therefore, they must be so arranging matters that the Fleet shall not return. Since the Fleet is threatened I must accompany it, and you must give me a laboratory aboard the flagship. I know that the vessels are all identical, but I must be aboard the same ship you are, since you alone are to know what I am doing."

"But what could they do?" protested Martin. "And, if they should do anything, what could you do about it?"

"I don't know," the physicist admitted. Gone now was the calm certainty with which he had been speaking. "That is our weakest point. I have studied that question from every possible viewpoint, and I do not know of anything they can do that promises them success. But you must remember that no human being really understands a robot's mind.

"We have never even studied one of their brains, you know, as they disintegrate upon the instant of cessation of normal functioning. But just as surely as you and I are sitting here, Admiral Martin, they will do something—something very efficient and exceedingly deadly. I have no idea what it will be. It may be mental, or physical, or both: they may be hidden away in some of our own ships already. . . ."

MARTIN scoffed. "Impossible!" he exclaimed. "Why, those ships have been inspected to the very skin, time and time again!"

"Nevertheless, they may be there," Stone went on, unmoved. "I am definitely certain of only one thing—if you install a laboratory aboard the flagship for me and equip it exactly according to my instructions, you will have one man, at least, whom nothing that the robots can do will take by surprise. Will you do it?"

"I am convinced, really almost against my will." Martin frowned in thought. "However, convincing anyone else may prove difficult, especially as you insist upon secrecy."

"Don't try to convince anybody!" exclaimed the scientist. "Tell them that I'm building a communicator—tell them I'm an inventor working on a new ray-projector—tell them anything except the truth!"

"All right. I have sufficient authority to see that your requests are granted, I think."

And thus it came about that when the immense Terrestrial Contingent lifted itself into the air Ferdinand Stone was in his private laboratory in the flagship, surrounded by apparatus and equipment of his own designing, much of which was connected to special generators by leads heavy enough to carry their full output.

Earth some thirty hours beneath them, Stone felt himself become weightless. His ready suspicions blazed. He pressed Martin's combination upon his visiphone panel.

"What's the matter?" he rasped. "What're they down for?"

"It's nothing serious," the admiral assured him. "They're just waiting for additional instructions about our course in the maneuvers."

"Not serious, huh?" Stone grunted. "I'm not so sure of that. I want to talk to you, and this room's the only place I know where we'll be safe. Can you come down here right away?"

"Why, certainly," Martin assented.

"I never paid any attention to our course," the physicist snapped as his visitor entered the laboratory. "What was it?"

"Take-off exactly at midnight of June nineteenth," Martin recited, watching Stone draw a diagram upon

a scratch-pad. "Rise vertically at one and one-half gravities until a velocity of one kilometer per second has been attained, then continue vertical rise at constant velocity. At 6:03:29 AM of June twenty-first head directly for the star Regulus at an acceleration of exactly nine hundred eighty centimeters per second. Hold this course for one hour, forty-two minutes, and thirty-five seconds; then drift. Further directions will be supplied as soon thereafter as the courses of the other fleets can be checked."

"Has anybody computed it?"

"Undoubtedly the navigators have—why? That is the course Dos-Tev gave us and it *must* be followed, since he is Admiral-in-Chief of our side, the Blues. One slip may ruin the whole plan, give the Reds, our supposed enemy in these maneuvers, a victory, and get us all disrated."

"Regardless, we'd better check on our course," Stone growled, unimpressed. "We'll compute it roughly, right here, and see where following these directions has put us." Taking up a slide-rule and a book of logarithms he set to work.

"That initial rise doesn't mean a thing," he commented after a while, "except to get us far enough away from Earth so that the gravity is small, and to conceal from the casual observer that the effective take-off is still exactly at midnight."

STONE busied himself with calculations for many minutes. He stroked his forehead and scowled.

"My figures are very rough, of course," he said puzzledly at last, "but they show that we've got no more tangential velocity with respect to the sun than a hen has teeth. And you can't tell me that it wasn't planned that way purposely—and *not* by Dos-Tev, either. On the other hand, our radial velocity, directly toward the sun, which is the only velocity we have, amounted to something over fifty-two kilometers per second when we shut off power and is increasing geometrically under the gravitational pull of the sun. That course smells to high heaven, Martin! Dos-Tev never sent out any such a mess as that. The robots crossed him up, just as sure as hell's a man-trap! We're heading into the sun—and destruction!"

Without reply Martin called the navigating room. "What do you think of this course, Henderson?" he asked.

"I do not like it, sir," the officer replied. "Relative to the sun we have a tangential velocity of only one point three centimeters per second, while our radial velocity toward it is very nearly fifty-three thousand meters per second. We will not be in any real danger for several days, but it should be borne in mind that we have no tangential velocity."

"You see, Stone, we are in no present danger," Martin pointed out, "and I am sure that Dos-Tev will send us additional instructions long before our situation becomes acute."

"I'm not," the pessimistic scientist grunted. "Anyway, I would advise calling some of the other Blue fleets on your scrambled wave, for a check-up."

"There would be no harm in that." Martin called the Communications Officer, and soon:

"Communications Officers of all the Blue fleets of the Inner Planets, attention!" the message was hurled out into space by the full power of the flagship's mighty transmitter. "Flagship *Washington* of the Terrestrial Contingent calling all Blue flagships. We have reason to suspect that the course which has been given us is false. We advise you to check your courses with care and to return to your bases if you disc . . ."

CHAPTER III

Battle in Space

IN the middle of the word the radio man's clear, precisely spaced enunciation became a hideous drooling, a slobbering, meaningless mumble. Martin stared into his plate in amazement. The Communications Officer of Martin's ship, the *Washington*, had

slumped down loosely into his seat as though his every bone had turned to a rubber string. His tongue lolled out limply between slack jaws, his eyes protruded, his limbs jerked and twitched aimlessly.

Every man visible in the plate was similarly affected—the entire Communications staff was in the same pitiable condition of utter helplessness. But Ferdinand Stone did not stare. A haze of livid light had appeared, gnawing viciously at his spherical protective screen, and he sprang instantly to his instruments.

"I can't say that I expected this particular development, but I know what they are doing and I am not surprised," Stone said, coolly. "They have discovered the thought band and are broadcasting such an interference on it that no human being not protected against it can think intelligently. There, I have expanded our zone to cover the whole ship. I hope that they don't find out for a few minutes that we are immune, and I don't think they can, as I have so adjusted the screen that it is now absorbing, instead of radiating.

"Tell the captain to put the ship into heaviest possible battle order, everything full on, as soon as the men can handle themselves. Then I want to make a few suggestions."

"What happened, anyway?" the Communications Officer, semi-conscious now, was demanding. "Something hit me and tore my brain all apart—I couldn't think, couldn't do a thing. My mind was all chewed up by curly pinwheels. . . ." Throughout the vast battleship of space men raved briefly in delirium; but, the cause removed, recovery was rapid and complete. Martin explained matters to the captain, that worthy issued orders, and soon the flagship had in readiness all her weapons, both of defense and of offense.

"Doctor Stone, who knows more about the automatons than does any other human being, will tell us what to do next," the Flight Director said.

"The first thing to do is to locate them," Stone, now temporary commander, stated crisply. "They have taken over at least one of our vessels, probably one close to us, so as to be near the center of the formation. Radio room, put out tracers on wave point oh oh two seven one . . ." He went on to give exact and highly technical instructions as to the tuning of the detectors.

"We have found them, sir," soon came the welcome report. "One ship, the *Dresden*, coordinates 42-79-63."

"That makes it bad—very bad," Stone reflected, audibly. "We can't expand the zone to release another ship from the control of the robots without enveloping the *Dresden* and exposing ourselves. Can't surprise them—they're ready for anything. It's rather long range, too." The vessels of the Fleet were a thousand miles apart, being in open order for high-velocity flight in open space. "Torpedoes would be thrown off by her meteorite deflectors. Only one thing to do, Captain—close in and tear into her with everything you've got."

"But the men in her!" protested Martin.

"Dead long ago," snapped the expert. "Probably been animated corpses for days. Take a look if you want to; won't do any harm now. Radio, put us on as many of the *Dresden's* television plates as you can—besides, what's the crew of one ship compared to the hundreds of thousands of men in the rest of the Fleet? We can't burn her out at one blast, anyway. They've got real brains and the same armament we have, and will certainly kill the crew at the first blast, if they haven't done it already. Afraid it'll be a near thing, getting away from the sun, even with eleven other ships to help us—"

HE broke off as the beam operators succeeded in making connection briefly with the plates of the *Dresden*. One glimpse, then the visibeams were cut savagely, but that glimpse was enough. They saw that their sister-ship was manned completely by automatons. In her every compartment men, all too plainly dead, lay wherever they had chanced to fall. The captain swore a startled oath, then

bellowed orders; and the flagship, driving projectors fiercely aflame, rushed to come to grips with the *Dresden.*

"You intimated something about help," Martin suggested. "Can you release some of the other ships from the automaton's yoke, after all?"

"Got to—or roast. This is bound to be a battle of attrition—we can't crush her screens alone until her power is exhausted and we'll be in the sun long before then. I see only one possible way out. We'll have to build a neutralizing generator for every lifeboat this ship carries, and send each one out to release one other ship in our Fleet from the robot's grip. Eleven boats—that'll make twelve to concentrate on her—about all that could attack at once, anyway. That way will take so much time that it will certainly be touch-and-go, but it's the only thing we can do, as far as I can see. Give me ten good radio men and some mechanics, and we'll get at it."

While the technicians were coming on the run Stone issued final instructions:

"Attack with every weapon you can possibly use. Try to break down the *Dresden's* meteorite shields, so that you can use our shells and torpedoes. Burn every gram of fuel that your generators will take. Don't try to save it. The more you burn the more they'll have to, and the quicker we can take 'em. We can refuel you easily enough from the other vessels if we get away."

Then, while Stone and his technical experts labored upon the generators of the screens which were to protect eleven more of the gigantic vessels against the thought-destroying radiations of the automatons, and while the computers calculated, minute by minute, the exact progress of the Fleet toward the blazing sun, the flagship *Washington* drove in upon the rebellious *Dresden,* her main forward battery furiously aflame. Drove in until the repellor-screens of the two vessels locked and buckled. Then Captain Malcolm really opened up.

That grizzled four-striper had been at a loss—knowing little indeed of the oscillatory nature of thought and still less of the abstruse mathematics in which Ferdinand Stone took such delight—but here was something that he understood thoroughly. He knew his ship, knew her every weapon and her every whim, knew to the final volt and to the ultimate ampere her Gargantuan capacity both to give it and to take it. He could fight his ship—and how he fought her!

From every projector that could be brought to bear there flamed out against the *Dresden* beams of an energy and of a potency indescribable, at whose scintillant areas of contact the defensive screens of the robot-manned cruiser flared into terribly resplendent brilliance. Every type of lethal vibratory force was hurled, upon every usable destructive frequency.

NEEDLE-RAYS and stabbingly penetrant stilettos of fire thrust and thrust again. Sizzling, flashing planes cut and slashed. The heaviest annihilating and disintegrating beams generable by man clawed and tore in wild abandon.

And over all and through all the stupendously powerful blanketing beams—so furiously driven that the coils and commutators of their generators fairly smoked and that the refractory throats of their projectors glared radiantly violet and began slowly, stubbornly to volatilize—raved out in all their pyrotechnically incandescent might, striving prodigiously to crush by their sheer power the shielding screens of the vessel of the automatons.

Nor was the vibratory offensive alone. Every gun, primary or auxiliary, that could be pointed at the *Dresden* was vomiting smoke- and flame-enshrouded steel as fast as automatic loaders could serve it, and under that continuous, appallingly silent concussion the giant frame of the flagship shuddered and trembled in every plate and member.

And from every launching-tube there were streaming the deadliest missiles known to science; radio-dir-

igible torpedoes which, looping in vast circles to attain the highest possible measure of momentum, crashed against the *Dresden's* meteorite deflectors in Herculean efforts to break them down; and, in failing to do so, exploded and filled all space with raging flame and with flying fragments of metal.

Captain Malcolm was burning his stores of fuel and munitions at an appalling rate, careless alike of exhaustion of reserves and of service-life of equipment. All his generators were running at a shockingly ruinous overload, his every projector was being used so mercilessly that not even their powerful refrigerators, radiating the transported heat into the interplanetary cold from the dark side of the ship, could keep their refractory linings in place for long.

And through raging beam, through blasting ray, through crushing force; through storm of explosive and through rain of metal the *Dresden* remained apparently unscathed. Her screens were radiating high into the violet, but they showed no sign of weakening or of going down. Neither did the meteorite deflectors break down. Everything held. Since she was armed as capably as was the flagship and was being fought by inhumanly intelligent monstrosities, she was invulnerable to any one ship of the Fleet as long as her generators could be fed.

Nevertheless, Captain Malcolm was well content. He was making the *Dresden* burn plenty of irreplaceable fuel, and his generators and projectors would last long enough. His ship, his men, and his weapons could and would carry the load until the fresh attackers should take it over; and carry it they did. Carried it while Stone and his over-driven crew finished their complicated mechanisms and flew out into space toward the eleven nearest battleships of the Fleet.

They carried it while the computers, grim-faced and scowling now, jotted down from minute to minute the enormous and rapidly-increasing figure representing their radial velocity. Carried it while Earth's immense armada, manned by creatures incapable of even the simplest coherent thought or purposeful notion, plunged sickeningly downward in its madly hopeless fall, with scarcely a measurable trace of tangential velocity, toward the unimaginable inferno of the sun.

EVENTUALLY, however, the shielded lifeboats approached their objectives and expanded their screens to enclose them. Officers recovered, airlocks opened, and the lifeboats, still radiating protection, were taken inside. Explanations were made, orders were given, and one by one the eleven vengeful superdreadnaughts shot away to join their flagship in abating the Menace of the Machine.

No conceivable structure, however armed or powered, could long withstand the fury of the combined assault of twelve such superb battle craft, and under that awful concentration of force the screens of the doomed ship radiated higher and higher into the ultra-violet, went black, and failed. And, those mighty defenses down, the end was practically instantaneous.

No unprotected metal can endure even momentarily the ardor of such beams, and they played on, not only until every plate and girder of the vessel and every nut, bolt, and rivet of its monstrous crew had been blasted out of all semblance to what it had once been, but until every fragment of metal had not only been liquefied, but had been completely volatilized.

At the instant of cessation of the brain-scrambling activities of the automatons the Communications Officer had begun an insistent broadcast. Aboard all of the ships there were many who did not recover—who would be helpless imbeciles during the short period of life left to them—but soon an intelligent officer was at every control and each unit of the Terrestrial Contingent was exerting

its maximum thrust at a right angle to its line of fall.

And now the burden was shifted from the fighting staff to the no less able engineers and computers. To the engineers the task of keeping their mighty engines in such tune as to maintain constantly the peak acceleration of three Earth gravities; to the computers that of so directing their ever-changing course as to win every possible centimeter of precious tangential velocity.

CHAPTER IV

The Sun's Gravity

FERDINAND STONE was hollow-eyed and gaunt from his practically sleepless days and nights of toil, but he was as grimly resolute as ever. Struggling against the terrific weight of three gravities he made his way to the desk of the Chief Computer and waited while that worthy, whose leaden hands could scarcely manipulate the instruments of his profession, finished his seemingly endless calculations.

"We will escape the sun's mighty attraction, Doctor Stone, with approximately half a gravity to spare," the mathematician reported finally. "Whether we will be alive or not is another question. There will be heat, which our refrigerators may or may not be able to handle; there will be radiations which our armor may or may not be able to stop. You, of course, know a lot more about those things than I do."

"Distance at closest approach?" snapped Stone.

"Two point twenty-nine times ten to the ninth meters from the sun's center," the computer shot back instantly. "That is, one million five hundred ninety thousand kilometers —only two point twenty-seven radii— from the arbitrary surface. What do you think of our chances, sir?"

"It will probably be a near thing— very near," the physicist replied, thoughtfully. "Much, however, can be done. We can probably tune our defensive screens to block most of the harmful radiations, and we may be able to muster other defenses. I will analyze the radiations and see what we can do about neutralizing them."

"You will go to bed," directed Martin, crisply. "There will be lots of time for that work after you get rested up. The doctors have been reporting that the men who did not recover from the robots' broadcast are dying under this acceleration. With those facts staring us in the face, however, I do not see how we can reduce our power."

"We can't. As it is, many more of us will probably die before we get away from the sun," and Stone staggered away, practically asleep on his feet.

Day after day the frightful fall continued. The sun grew larger and larger, more and ever more menacingly intense. One by one at first, and then by scores, the mindless men of the Fleet died and were consigned to space—a man must be in full control of all his faculties to survive for long an acceleration of three gravities.

THE generators of the defensive screens had early been tuned to neutralize as much as possible of Old Sol's most fervently harmful frequencies, and but for their mighty shields every man of the Fleet would have perished long since. Now even those ultra-powerful guards were proving inadequate.

Refrigerators were running at the highest possible overload and the men, pressing as closely as possible to the dark sides of their vessels, were availing themselves of such extra protection of lead shields and the like as could be improvised from whatever material was at hand.

Yet the already stifling air became hotter and hotter, eyes began to ache and burn, skins blistered and cracked under the punishing impact of forces which all the defenses could not block. But at last came the long-awaited announcement.

"Pilots and watch-officers of all ships, attention!" the Chief Computer spoke into his microphone through parched and blackened lips. "We are now at the point of tangency. The gravity of the sun here is twenty-four point five meters per second squared. Since we are blasting twenty-nine point four we are beginning to pull away at an acceleration of four point nine. Until further notice keep your pointers directly away from the sun's center, in the plane of the Ecliptic."

The sun was now in no sense the orb of day with which we upon Earth's green surface are familiar. It was a gigantic globe of turbulently seething flame, subtending an angle of almost thirty-five degrees, blotting out a full fourth of the cone of normally distinct vision.

Sunspots were plainly to be seen; combinations of indescribably violent cyclonic storms and volcanic eruptions in a gaseously liquid medium of searing, eye-tearing incandescence. And everywhere, threatening at times even to reach the fiercely-struggling ships of space, were the solar prominences—fiendish javelins of frenziedly frantic destruction, hurling themselves in wild abandon out into the empty reaches of the void.

Eyes behind almost opaque lead-glass goggles, head and body encased in a multi-layered suit each ply of which was copiously smeared with thick lead paint, Stone studied the raging monster of the heavens from the closest viewpoint any human being had ever attained—and lived. Even he, protected as he was, could peer but briefly; and, master physicist though he was and astronomer-of-sorts, yet he was profoundly awed at the spectacle.

Twice that terrifying mass was circled. Then, air-temperature again bearable and lethal radiations stopped, the grueling acceleration was reduced to a heavenly one-and-one-half gravities and the vast fleet remade its formation. The automatons and the sun between them had taken heavy toll; but the gaps were filled, men were transferred to equalize the losses of personnel, and the course was laid for distant Earth. And in the Admiral's private quarters two men sat together and stared at each other.

"Well, that's that—so far, so good," the physicist broke the long silence.

"But is their power really broken?" asked Martin, anxiously.

"I don't know," Stone grunted, dourly. "But the pick of them—the brainiest of the lot—were undoubtedly here. We beat them. . . ."

MARTIN interrupted.

"*You* beat them, you mean," he said.

"With a lot of absolutely indispensable help from you and your force. But have it your own way—what do words matter? *I* beat them, then; and in the same sense I can beat the rest of them if we play our cards exactly right."

"In what way?"

"In keeping me entirely out of the picture. Believe me, Martin, it is of the essence that all of your officers who know what happened be sworn to silence and that not a word about me leaks out to anybody. Put out any story you please except the truth—mention the name of anybody or anything between here and Andromeda except me. Promise me now that you will not let my name get out until I give you permission or until after I am dead."

"But I'll have to, in my reports."

"You report only to the Supreme Council, and a good half of those reports are sealed. Seal this one."

"But I think. . . ."

"What with?" gruffly. "If my name becomes known my usefulness—and my life—are done. Remember, Martin, I *know* robots. There are some capable ones left, and if they get wind of me in any way they'll get me before I can get them. As things are, and with your help, I can and I will get them all. That's a promise. Have I yours?"

"In that case, of course you have."

And Admiral Alan Martin and Doctor Ferdinand Stone were men who kept their promises.

MEET OUR SCIENCE FICTION FAMILY

Here They Are! The Men Behind

THRILLING WONDER STORIES

who have helped make it the recognized leader in its field. Now, for the first time in science fiction history, T.W.S. presents its star parade of writers and artists—their pictures, autobiographies and biographies. Authors and artists, step up and take your bows!

CLIFFORD D. SIMAK

Author of "The Loot of Time," "Madness From Mars," etc.

Clifford D. Simak

BORN August 3, 1904 on a southwestern Wisconsin farm near the historic old city of Prairie du Chien. Gave up the idea of going out west and becoming a cowboy after I spent four years riding a horse to a small town high school, five miles each morning and evening. Attended normal school after that and taught rural school for several years. Went to the University of Wisconsin, majoring in journalism. Learned more about newspaper work in the first few weeks of actual work on a northern Michigan semi-weekly than I did in all the time I spent at university. Since then have newspapered in Michigan, Iowa, North Dakota, Missouri and Minnesota. At present am managing editor of a daily paper at Brainerd, Minnesota.

First science-fiction story I ever wrote, "World of the Red Sun," was published in the December, 1931 issue of the old Wonder Stories.

Married in 1929. No family unless you count our Scottie pup, Hoot Mon Tyke. By-line on stories really should include Mrs. Simak's name as well, for she acts as critic and typist. Tells me which stories will sell, those that won't. She hasn't missed yet!

MANLY WADE WELLMAN

Author of "Dream Dust From Mars," "Giants From Eternity," etc.

Manly Wade Wellman

THERE have been Wellmans in Virginia back to 1660, and before that in Devonshire back to, say, 660 . . . modest gentlefolk all, but of poor judgment in battle, having graced the losing factions at Hastings, Otterburn, Bosworth Field, Princeton, Gettysburg. . . . I was born in Portuguese West Africa, where my father was doing medical research . . . sketchily educated in London, Washington, Wichita, Salt Lake City, New York . . . poor student, mediocre footballer . . . since graduation, have toiled as bookseller, bouncer, farm hand, house painter, reporter, and, finally, writer . . . other less savory employments I shall not mention . . . first appeared in Wonder in 1931 and hope to go on appearing. . . . am thirtyish, dark, untidy, married, and huge . . . probably the biggest, or second or third biggest, of all science fiction authors. . . .

My home is the Watchung Mountains . . . and, in response to inquiries, that's my real name . . . if I were going to take a nom de plume, I'd call myself something successful, like Jules Verne or Edgar Rice Burroughs.

[*Turn page*]

Six Pages of Biographies and Photos

Frank Belknap Long, Jr.

FRANK BELKNAP LONG, JR.

Author of "White Barrier," "Invaders from the Outer Suns," etc.

BORN a few years after turn of century. Same complex which makes him sensitive about gray hairs prohibits revelation of exact date. Is that incredible variety of rara avis, a Native New Yorker. Educated New York public schools and New York University, School of Journalism. Has published 125 science fiction, supernatural horror and detective short stories and novelets. Stories have appeared in about eighteen magazines in U. S. and Canada, and in several horror tale anthologies, one of which is now a Blue Ribbon "permanent."

Was an early contributor to Wonder Stories, having crashed a quarterly with a short-short far back in the pleistocene age. Published a volume of poems a decade ago which received rather gratifying reviews in London Times, Boston Transcript and New York Tribune. Hopes eventually to live it down.

Is spare-framed, and a bit shy, and single.

MAX C. SHERIDAN

Author of "Zones of Space," "The Human Equation," etc.

Max C. Sheridan

IT seems that the ways of Fate are devious, and the crossroads unmarked,—or it may be that I didn't understand sign language. At any rate, it was eleven years ago that I started out to be a medico, and was four years along the pathway when Old Man Depression socked me right in the hip-pocketbook.

While more than a little slap-happy, I wandered down fifteen or twenty blind alleys before discovering my error. In quick succession I was a salesman, mechanic, long-shoreman, bell-hop, bus-boy, printer, lumberjack, sawmill hand, grinder-man in a paper-mill, truck driver, harvest hand, farm boy, bo' of the open roads, miner, waiter, first-aid man, rodman, draftsman, laboratory technician, chemist, surveyor, inspector, and mining engineer. I'm over 25 and married.

Have had a look at the forty-eight states, Canada, Mexico, and Alaska,—and hope to be the first man on Mars.

Stanton A. Coblentz

STANTON A. COBLENTZ

Author of "The Sunken World," "The Making of Misty Island," etc.

IT is now just about twenty years since, breaking away from a law course at the University of California when I was within a year of completing the curriculum, I decided to make the great plunge and become a professional writer. During the interval, I have kept the typewriter clicking busily; have served as a writer of daily feature poems for a San Francisco newspaper; have pounded out book reviews for years for some of the leading New York dailies; have turned out interviews and essays, and a miscellany of articles; have written poems, and edited a verse magazine, and been responsible for more than a dozen bound volumes.

It was in 1924 or 1925 that I began writing science fiction, out of my interest in the subject and before I realized that there was a market for it. Just now, after eighteen years in New York, I am continuing my writing in the hills and forests of California.

ROBERT MOORE WILLIAMS

Author of "The Man Who Looked Like Steinmetz," "Song of the Shadow Death," etc.

Robert Moore Williams

YOU'VE heard of the Ozark Mountains? Well, I was born down among them, June 19, 1907, at Farmington, Mo.

Why am I writing tall yarns? The urge to write began to annoy me at a tender age, but, for obvious reasons, I carefully concealed it from friend and foe, hoping it would go away. Unfortunately, it didn't. A little less than two years ago, I found it was annoying me too much for comfort, so I quit my job, gleefully thumbed my nose at my boss, and took to the tall timber, resolved to come home with my typewriter, or upon it. Before I had time to more than catch my breath, I found I had sold three stories.

I started writing science-fiction, frankly, because I enjoyed reading it. It seemed, and still seems, great stuff. Yes, I went to college. Thinking back over the matter now, I can't understand why I did, but it seemed the thing to do at the time.

Fiction Family

Carl Jacobi

CARL JACOBI

Author of "The War of the Weeds," "The World in a Box," etc.

MY first serious interest in science fiction began, I suppose, during college days at the University of Minnesota where I tried to divide my time between rhetoric courses and the geology laboratory. As an underclassman I was somewhat undecided whether future life would find me studying rocks and fossils or simply pounding a typewriter. The typewriter won.

Edited *The Minnesota Quarterly* and *Minnesota Ski-U-Mah* and later on served a newspaper apprenticeship as reporter and re-write man on *The Minneapolis Star*. Traveled a spell; fooled about with telegraphy, both wireless and Morse for another spell; then turned to writing fiction.

Thirty, unmarried, and my hobbies include studying the night sky with a 60-power glass, continuing contacts with friends now located in jumping-off spots of the South Seas and Malaysia, and saving old tobacco tins.

WARD HAWKINS

Author of "Men Must Die," "Dig Five Graves," etc.

IT all started way back in 1911 when I was born. They say I was a lusty, squawling little fellow with a fine taste for being a nuisance. I pestered people. And it seems that I'm still at it.

School was a succession of different schools—never one for two consecutive years, and quite often several different ones in the same year. It was a good life. Certainly, it was never boring. But it did teach me to be an Engineer of sorts, and it did teach me to ramble.

A couple of years engineering, then marriage, then a baby. Then my brother John quit construction to start writing. It seemed like a nice easy way to make a living, so I took a swing at it. Easy? Now, I wonder what I ever thought was hard about an eight-pound sledge-hammer and a mess of grade stakes. At least I'm having fun, though I guess I'm still pestering people. . . .

Ward Hawkins

Henry Kuttner

HENRY KUTTNER

Author of "Hollywood on the Moon," "The Star Parade," etc.

BORN in Los Angeles on April 7th, 1915. Have been viewing life with rapidly growing enthusiasm ever since. Consistently flunked math and Latin all through high school, but eventually graduated tastefully clad in a sky-blue cap and gown. Worked for a time in a bookshop, but wasn't notably successful, as I spent most of the day reading instead of selling books.

When I've finished a yarn I always find myself in the midst of large heaps of reference papers, books, magazines, ashes, and shed rattlesnake skins. I have never been able to figure out where the snake skins come from.

Chief ambition: to indulge my phenomenal laziness to the utmost. Things I like: weird stories, cats, rare roast beef, Thorne Smith, Laurel and Hardy, Spanish brandy. Things I don't like: exercise, milk, crowds, traffic, traveling, centipedes, Gerry Carlyle.

FRANK R. PAUL

FRANK R. PAUL will always be remembered as the trail-blazer of science fiction covers. In 1926 Frank Paul illustrated the first cover of the first scientifiction magazine. Since then his pen visioned the most fantastic dreams on the entire science fiction writing fraternity. Space ships, cities of the future, time machines, atomic explosions—it was Frank Paul who paved the way, set the mode for others to emulate.

Born in Austria, Paul received his education in old Vienna. He studied art in Vienna, Paris and New York. He speaks several languages fluently.

About science fiction, Paul says: "When I run into a story so bizarre that it seems to have too much of a muchness, I remind myself that our great-great-grandfathers would have pooh-poohed prophecies of radio and television and aviation. Many of our magazine authors are military men, doctors, chemists, and scientists."

Frank R. Paul

[Turn page]

Edmond Hamilton

EDMOND HAMILTON

Author of "The Prisoner of Mars," "Easy Money," etc.

I WAS born 33 years ago. Entered Westminster College at the ripe age of 14. Three years later the dean summoned me and gently informed me that regular attendance was necessary to an education and that mine had become so irregular he had decided to suspend it altogether. Education over, I did some newspaper work, for a while getting out a most unhumorous humor column. Then because I hated, and still hate, indoor work, graduated to railroading and an assistant-yardmaster's job.

I sold my first story to a weird magazine in 1925. Thus I started on the downward path. Right now I am tackling fiction as a whole-time proposition.

Height, five feet ten, weight, one hundred and fifty, white and unmarried. Swimming is my favorite amusement, though I like hiking, too. I consider golf and bridge games for dimwits, but like poker.

ARTHUR J. BURKS

Author of "The Discarded Veil," "Subcontinental," etc.

THE "J" is a mystery. Arthur J. Burks was born September 13, 1898, in Washington State. Disintegrating the optimistic predictions of his school teachers, he has not yet written the Great American Novel. Sold his first story to Kinwood's Magazine for $3.50.

In 1921 Burks merited a commission in the marines, serving altogether 11 years. He was aide-de-camp to General Smedley D. Butler. He has traveled widely in 13 different countries, and likes Santo Domingo best. His experiences as a lieutenant in the marines are vividly related in his book, "The Land of the Checkerboard Families."

Arthur J. Burks is probably one of the most popular and prolific writers in the magazine fiction field of today. Since 1923 he has sold over seven hundred stories.

Arthur J. Burks

F. A. Kummer, Jr.

FREDERIC ARNOLD KUMMER, JR.

Author of "The Exterminators," "The Telepathic Tomb," etc.

IN August, 1938, when we published "The Exterminators," the first science fiction story written by Frederic Arnold Kummer, Jr., we predicted that he would go far in the field of science fiction. That prediction has come true. Since that time the work of Kummer has been featured by all the leading science fiction magazines.

The son of the famous novelist, Frederic Arnold Kummer, Senior, our Frederic spent his childhood watching his popular father pounding the typewriter in agony, determined to write material that would bring home the bacon.

The whole business of writing seemed too tough an existence to Jr., so he determined not to become a writer. Result, a few years later, he was vying with his father, endeavoring to sell as much material as he!

Frederic Arnold Kummer, Jr., is 26 years old.

RALPH MILNE FARLEY

Author of "Liquid Life," "A Month a Minute," etc.

HOLDS three degrees from Harvard University. Has been: a newspaper sports reporter (Boston Post), a Captain of Artillery in the Regular Army (on the Technical Staff), and a teacher of Civil Engineering, Advanced Mathematics, Military Engineering, and Ballistics.

At present connected in a technical capacity with one of the largest manufacturing corporations in the middle west, and Lecturer on Physics at Marquette University. At Harvard was art editor and literary editor on the Harvard Lampoon.

Specializes in weird and science fiction, but has written one notable series of gangster stories and a series of stories of Army love. Also some detective yarns and historical fiction. Occasionally illustrates his own stories. Married and has three children.

Ralph Milne Farley

Fiction Family

H. W. WESSO

H. W. Wesso

H. W. WESSO'S full name is Hans Waldemar Wessolowski. Was born in Germany in 1894. Educated at Berlin Royal Academy, where he was awarded a scholarship for his art work. Is modest about his other achievements, but Mrs. Wesso adds that he paid his expenses through school by doing cartoon work.

He has traveled extensively. In two years he covered the incredible distance of 256,000 miles on water, "more than the distance from Earth to the moon," he points out. He has been in Africa six times and has girdled the globe twice.

Wesso has been living in the United States since 1914. He has done cover illustrating and interior sketches for the most prominent magazines in America. His first science fiction cover illustrated a story by Capt. S. P. Meek, "The Red Peril." He had absolutely no experience in the s-f field until then. His favorite artists are Dean Cornwall, Raleigh, and McClelland Barclay.

Plays excellent golf, and is a good bridge partner.

Alex Schomburg

ALEX SCHOMBURG

BORN in N. Y. C. in 1905. Studied art under private teacher. Started own studio about 15 years ago. Built window displays, illustrated song slides for theatre organists. Later sold business to slide manufacturer and worked for them. Four years later joined large film company as a staff artist.

First did magazine illustrations more as a hobby than anything else. Mostly Westerns and Detective stuff. One day the publisher asked me to do an illustration for THRILLING WONDER STORIES. I had always been interested in science fiction and he liked the way I handled the art work.

I enjoy reading the story as much as doing the illustrations. In my opinion an illustration is very important. For instance, give the same story to two different persons . . . then ask them to picture a certain scene. You can bet they'll be entirely different.

HOWARD V. BROWN

Howard V. Brown

MEET THRILLING WONDER STORIES' popular cover artist—Howard V. Brown. Artist Brown was born on July 5, 1878, near Lexington, Kentucky. He studied at the Chicago Art Institute. Brown's paintings have been accepted by the National Academy and have been displayed in many other exhibitions. Work of his has also been featured by the International Exhibition of American Illustrators. He is a member of the Society of Illustrators, the Artist's Guild, and the American Artist's Professional League.

Brown has traveled extensively in South America, Venezuela, British and French Guiana, Martinique, and the small spots of the Windward Islands. Travel helps him to relax, also familiarizes him with exotic local color. Howard Brown's two hobbies are microscopy and petrology. Brown has had covers and illustrations in almost every national American magazine of any importance.

Leo Morey

LEO MOREY

LEO MOREY is a science fiction illustrator who is well qualified with a knowledge of the technical sciences which are so necessary in his field of work. He is a graduate of Louisiana State University, having majored in Engineering. Even at that period Morey manifested his talents in art by becoming chief illustrator for his college year book.

Born in Peru, his artistic tendencies were frowned upon by his wealthy parents. For a few years he earned his livelihood by doing commercial illustrating for a Buenos Aires newspaper. Then he went back to the states, where he did some art work in New Orleans.

Morey admires the work of his contemporaries, Wesso and Paul. His best cover, he thinks, illustrated the story, "Beyond the Planetoids." His favorite author is Bob Olsen. He also likes the work of A. Hyatt Verrill, Dr. E. E. Smith, and Harl Vincent. [Turn page]

Meet Our Science Fiction Family

Jack Binder

JACK BINDER

THE thirty-five years of my life include the following occupations—lumberjack, miner, blacksmith, boxer and wrestler, scoutmaster, printer, milkman, engraver.

Casting aside all these opportunities for a brilliant future, I studied art at the Art Institute of Chicago for three years, followed by two years of art research at the Field Museum of Natural History.

Member of Delta Phi Delta. Since I've been in New York, my work has centered on moderns, oil marines, and magazine illustrating. Happily married and have three children. No particular hobby except resting. I find science fiction illustrating the most exacting of art work—but the most fun. Do IF—for THRILLING WONDER STORIES and THEY CHANGED THE WORLD for STARTLING STORIES. Send your squawks this way.

Yes, I'm one of the famous Binder trio—the others being Earl and Otto.

MARK MARCHIONI

MARCHIONI, well known to science fiction followers for the last decade, was born in New York. He studied art at the Art Student's League and Grand Central Art School.

He sold his first science fiction drawing to the old Wonder Stories when it was edited and published by Hugo Gernsback. Since then he has drawn for almost all the other science fiction magazines in the field.

Marchioni does a wide variety of commercial illustrating for various advertising agencies. A serious, dark-eyed chap of 29, he likes good books, music.

His favorite hobby consists of fooling around with mechanical gadgets.

His chief ambition is to improve his work.

Certainly, he likes to illustrate SCIENTIFACTS.

His favorite authors are Eando Binder, Dr. Keller and Edward Elmer Smith, Ph.D.

Mark Marchioni

Virgil Finlay—a Self-Portrait

VIRGIL FINLAY

VIRGIL FINLAY is an artist who created his own niche in the Hall of Science Fiction fame, mainly because of his determination to succeed as an illustrator of fantasy fiction.

Born in the city of Rochester, New York, twenty-five years ago, Virgil Finlay first became initiated into the realm of fantasy literature a few years ago, when he became an interested follower of a magazine featuring weird stories. Finlay studied the type of illustrations used by this magazine, decided he could do something along the same lines, but in a different style. He made a few sample sketches, submitted them to the editor of this magazine.

So distinctive was Virgil Finlay's style, so bizarre his treatment, that the editor promptly attached him to his staff, began to feature his work steadily, both on black-and-white drawings and on covers. Finlay's stuff was so popular in this magazine that his name sky-rocketed to immediate fame—a success it well deserved.

A. Merritt, the editor of the American Weekly, and a famous science fiction author in his own right, admired Finlay's work so much he invited Finlay to join his art staff, in New York.

THRILLING WONDER STORIES was the first science fiction magazine to present the work of Finlay. He has since made his appearance in our companion magazines, STARTLING STORIES and STRANGE STORIES. Finlay's favorite heroine is his wife—whom he married a few months ago.

A SPECIAL FEATURE OF INTERESTING ODDITIES

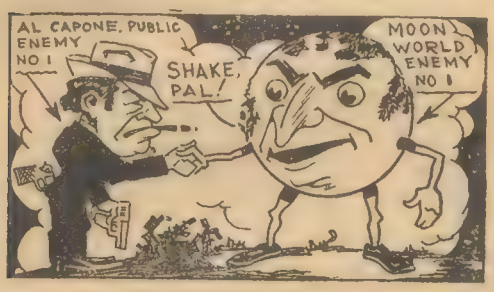
By J. B. WALTER

THE MOON MENACE

EARTHQUAKES are caused by the moon—and not by our Earth!

The suggestion, that the moon may have a great deal to do with the setting off of earthquakes originating deep beneath the Earth's surface, is one of geology's latest theories.

The moon, according to this hypothesis, would set off earthquakes by adding tidal stresses to already existing stresses from



other sources, that have brought the rocks almost to the breaking point. That is, the lunar tides would act as triggers to the already-loaded earthquake gun.

Two kinds of tides are involved: the tidal pull upon the Earth's rocky crust itself, which is probably the more important of the two: and the ordinary tides in the ocean, which at regular intervals pile millions of tons of water above stressed rocks in seacoast regions.

THE TEN RIDDLES

TEN mysteries baffle the astronomical wizards of today!

And here they are: Is the Universe running down? That is, progressing to a heatless death? . . . What is the cause of the perplexing oscillations of the Earth? . . . What is the location of the original home of the planets? . . . What is the reason for the rapid rotation of the sun? . . . What is the past history of dust meteors? . . .

What is the source of energy of the Universe? . . . What about the origin of the dwarf stars? . . . Where is the nucleus of our galaxy? . . . Is the apparent recession of outside galaxies at a terrific rate of speed due to real motion, or is it the effect of relativity? . . . Have we reached the outermost exploratory limits of the Universe?

SEVEN LIFETIMES

A CAT may have nine lives—but one butterfly, the gold-banded skipper, is born seven times!

This specimen of Nature actually passes through six metamorphoses in its progress from the almost microscopic egg to the adult insect, each stage having its own peculiar physical structure, color, and way of life.

SHORTEST NOT THE QUICKEST

THE shortest distance between two points is a straight line, but the *quickest* distance between two points, that is, the distance requiring the least time to travel, may *not* be a straight line.

For example: if a particle is to move down an incline, it will do so in the shortest time if the incline is curved inward; while if the incline is straight, it will require more time to travel from the top to the bottom although the distance is less.

This fact was guessed by Galileo about 1600 and proved by Bernoulli in the eighteenth century.

THE NON-EXISTENT LINK

THERE is no missing link!

That the hunt of scientists for the "missing link" between man and his sup-

posedly ape cousin is doomed to failure, is the opinion of Dr. Austin H. Clark of the Smithsonian Institute.

For the hunt of the missing link is founded on a theory which Dr. Clark believes is fallacious. Evidence so far presented by skeletons of early man does not prove the theory of a straight line of evolution of which the ape was one stage and man a later.

Nor does it prove a theory of an evolutionary tree, of which man is an offshoot

from an ape branch. What Dr. Clark believes really happened was that cells starting from the single cell began to split and multiply in different ways, and from this method of dividing came the general forms of life.

That part of life in which man can be included comes from four general types of animals. Between each two of the four primary types is another type composed of the characteristics of each two. And between each of the four secondary types are four other types composed of combinations of their characteristics. Man, therefore, is one of these types so formed of combined characteristics. The ape is another type. That a line of evolution, straight or treelike, connects them, Dr. Clark doubts.

NATURE'S COMPASSES

NATURE endows certain organisms with a sense of direction!

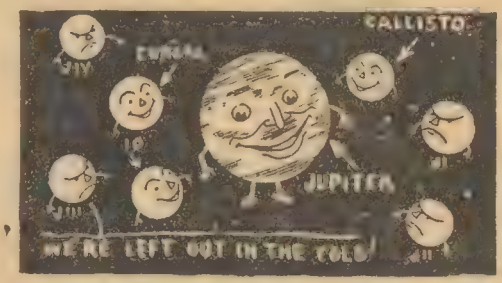
The compass-plant, a tall stout herb of America's western prairies, with coarse, deeply cleft and erect leaves, has the peculiarity of holding the leaf-edges due north and south. At least, the younger leaves may be depended upon to point toward the poles; as they grow older they are not always so reliable.

In the insect kingdom, the beetle *telephorous* displays the peculiar trophism of always being attracted toward the magnetic pole. If you're lost in the woods, and come across one of these walking compasses, you'll find your way north in no time.

JUPITER'S LOVE-LIFE

WHEN Galileo discovered the satellites of Jupiter, they were named Io, Europa and Callisto—after the three lovely ladies of whom the great god Jupiter was fond.

The romantic names of Galileo's moons are not favored by the hardboiled astronomers of today. They usually refer to Jupiter's entourage of eleven satellites as J I, J II, J III and J IV, etc., for to keep on naming the subsequently discovered satellites according to the same appropriate fancy might perhaps have exhausted the mythological lexicon.



It's too bad Jupiter didn't have some more girl friends!

SECOND-SPLITTER

THE Coast and Geodetic Survey at Washington has developed a device which times the swings of a pendulum in ten-millionth parts of a second. It is used in determining the pull of gravity.

Here, at last, is a clock delicate enough to measure the 45,053/10,000,000ths of a second that it takes the government to spend a dollar!

YESTERDAY'S BEQUESTS DEFEAT THE INVADERS OF TOMORROW

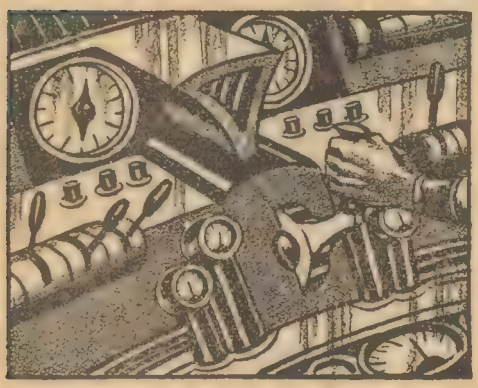
IN

THE WARNING FROM THE PAST

A Novelet of the Time Capsule

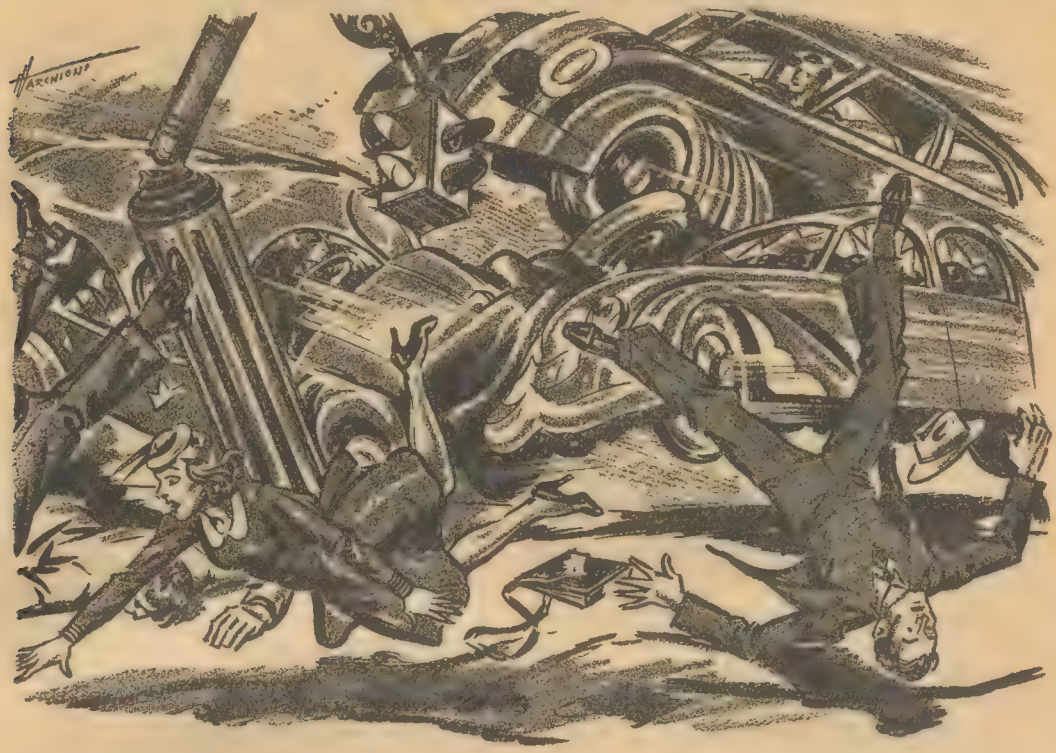
By

ROBERT MOORE WILLIAMS



IN THE NEXT ISSUE

Timothy Tompkins Had an Invention That Could Annihilate All Friction—But There Was One Rub!



Automobiles plunged in every direction, with surplus power

NO MORE FRICTION

By DR. DAVID H. KELLER

Author of "The Revolt of the Pedestrians," "The Human Termites," etc.

IT was odd, Timothy Tompkins was thinking, how sometimes just a word, or a phrase, or some little human action—or lack of it—could give an idea to a man with an inventive mind.

As now. Caroline, his wife, had given him the idea of a lifetime! He knew it, but she didn't! She thought she was bawling him out. Caroline never had had much patience with him and his ideas. She called his experiments, whatever they were, "wasting time." Just because he had never come home one day and poured a golden flood into her lap, she thought . . .

"I don't see why we can't get along without clashing and quarreling all the time," Caroline was saying petulantly. "Always about the same old thing—money, money, money that we haven't got. It's come to a point where we rub each other the wrong time every time we open our mouths. Other people can get along without friction, but we—"

There! She had said it again. Friction! Timothy Tompkins' mind was

immediately off on roller-bearing wheels. He didn't even hear the rest of his wife's familiar complaint about how she had to make one dollar do the work of two, and how could he expect her to be sweet and amiable when she had a dreamy idiot in the house, instead of a go-getter who could bring home enough cash to make the domestic wheels go round.

Just one word was ringing in his mind—friction!—and a vast vision of what he meant to do with it. This time he would not fail! He could not! It was too plain in his mind—the greatest dream of his life that had been born of an idle word.

"When I was a kid," he said dreamily, "I was riding in a carriage, and the man had forgotten to grease the axle. It started to get hot, then to smoke, and—"

"That's more than you do!" snapped Mrs. Tompkins bitingly. "And what an answer to *me!* I'm talking about serious things, practical things, and you—Timothy Tompkins, are you crazy?"

"Maybe." He shrugged. "The jury isn't in yet."

His mind was too busy for argument. He was thinking about friction, and ball bearings and cylinder bearings, and now lubrication was the big thing that made carriages and automobiles and even airplanes possible. In a deep brown study, he moved toward the door.

"Here!" called Caroline peremptorily. "Where do you think you're going? I told you—"

Timothy Tompkins looked up at his wife and grinned.

"Eh?" he said vaguely. "Oh, yes. Pardon me, my dear, but I've got to go out and buy a pair of roller skates."

"Well!" said Caroline Tompkins, and sat down hard as the door closed on her vague-eyed husband. She knew the symptoms. And it seemed hopeless.

BUT Timothy Tompkins got his roller skates. Nightly he rolled along on them on back streets, and when he thought himself expert enough, he started in to make reality of the dream that one word from his exasperated Caroline had conjured up.

But wasn't it always like that? Every time he got Caroline on her high horse, whatever the reason, he always came out a winner. Invariably she said something that started a train of thought toward a new invention. And this one had sprung full-panoplied into his brain.

When Timothy Tompkins was sure of his balance on the roller skates, he fastened a little box, about an inch square, on each skate, pressed a little button on each box and started to skate. The little button was part of a control switch he had made that pulled a neutralizing screen from the magnets, allowing them to exert their field.

He started to roll along. And he kept on rolling! He didn't even have to move a muscle. He had it! The secret of controlling friction! All in this little machine he had based on such a simple idea! It was so elementary that the wonder to him was why nobody had thought of it before.

Gravity and friction, the two forces that slow things down, could neither one be entirely removed, he knew, but it would help if their effect could be *reduced.* If gravity could be given just a slight twist aside, it might not grip so strongly. And if a more perfect lubricant could be made, friction would be reduced.

He had found his answer to both problems. By creating a field of strain between two small but powerful magnets made out of a new alloy, he was able to give gravity the slight twist. He had done even better. The force was the type that could make small bodies repellent to one another; it was the very opposite of magnetism! That made it the ideal lubricant. Ball bearings rotated without friction in the field's sphere of influence, simply because they never touched the axle! Naturally there was no friction.

So successful was his first try-out of his invention on his roller skates, that when he got going he could not stop. He went for several miles before he could turn around a block and come back. When he finally managed to

press other little buttons and stop, he sat down on the curbstone, breathless, a little uncertain whether he was more elated or dazed.

"It's not perpetual motion," he told himself. "Because it just can't be! But it's practically the same thing. It's motion without friction. That means that once a machine equipped with it is started, it will go on for a mighty long time with practically nothing except the force necessary to start it."

His eyes glistened at the vision.

"Why, I can make these boxes as large as is necessary for any machine! I can attach them to automobiles, or even to trains!"

His brain buzzed with the vastness of the possibilities that opened up before him. If he could sell his invention to a railroad company, trains could be run at a fraction of what they cost the companies now. The railroads could make a comeback—which meant to Timothy Tompkins that if the X. & G. Railroad, in particular, came back, the stocks his father had left him would pay a nice dividend, and maybe Caroline would have something else to talk about instead of his ineffectiveness.

NO time was like the present to Tompkins—which was why he appeared at the country home of George Blunt, president of the X. & G. Railroad early the next morning. Blunt was eating breakfast, but he was not enjoying it. Too many other things were on his mind. His road had passed another dividend—completely passed it—and it looked as if it were only a question of time before it passed into the hands of a receiver.

"Tell this man Timothy Tompkins I'm not at home," he growled at his butler.

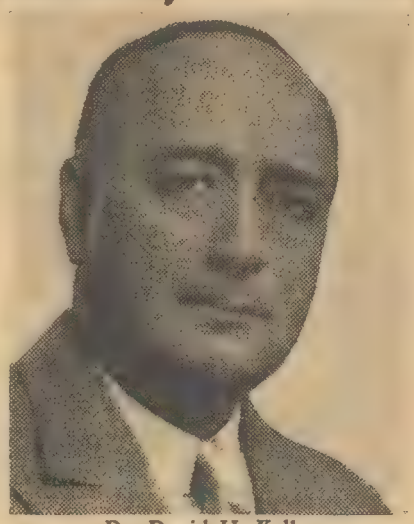
"Pardon me, but he says he has to see you, sir."

"What does he want?"

"He says," the butler murmured deprecatingly, "that he wants to put your railroad on its feet."

"Hell's bells! It hasn't any shoes! I'll fire him off the place myself, if you can't."

Presenting Dr. Keller



Dr. David H. Keller

SINCE he made his bow in 1928 with a science fiction story, "The Revolt of the Pedestrians," Dr. David H. Keller has contributed nearly 100 stories to the American magazines.

All his stories are written in a style peculiarly his own, paying particular regard to the human element. Hugo Gernsback, with whom he was associated, and whose conversations with him produced the inspiration for much of his work, held him out to amateur authors as a shining example to follow.

About himself, Dr. Keller says: "My story is that of a busy life—vocation, physician; avocation, writing. Always in my writing there has been the urge to attain, which goes far deeper than financial reward, or even the clamorous praise of the crowd, who will praise anything if the proper psychology is used on them. I was fourteen years old when I wrote my first story, and 47 when I had my first story accepted and paid for. There was a period during which I wrote for the sole pleasure of writing."

The worried Blunt rushed through the house to Tompkins.

"What do you mean by disturbing me?" he demanded. "Get out!"

"You have to listen to me, Mr. Blunt," Tompkins announced firmly. "I've invented something that will put your railroad on its feet. It's about friction. Understand? *Friction!* You are spending money for coal, oil, wear and tear. I can stop that! You can carry freight and compete with trucks, carry passengers at half a cent a mile and make money. You must listen!"

"'Must' is a big word," snapped Blunt.

"But my idea is a big idea. Look!

I'll show you on this concrete walk. You can't slide on that, can you, like a boy would on ice?"

"Of course not."

"Why not? The answer's plain. Too much friction between the concrete and the shoes. But if there were no friction you could slide. Now I have two little boxes here in my pocket, and I'm going to fasten them on my shoes. I'm going to press this little button, take a short run and slide. You just watch me!"

He fastened the boxes to his shoes, took a short run and started to slide. He went on, and on, down to the end of the walk, and down the street.

"Get the idea?" he asked, when he came back. "No friction. Just start and keep on going. Make other boxes like these bigger, a little more powerful. Place one on every locomotive, every freight car, every passenger train. Turn off the steam. You keep on going at no cost. A hundred yards from the station turn off the little boxes and put on your brakes. Reduce your rates, but make more money because you can carry more freight and more passengers, and carry them a lot cheaper than your competitors can."

Blunt looked at him. Suddenly he said:

"The power, or force, or whatever you call it that's in those little boxes —would it run an automobile?"

"Of course," the inventor said confidently. "Though I haven't tried it yet."

"Well, we will fasten them on my runabout and see," Blunt said. This was beginning to look more important to him than eating breakfast.

When they were in the car, with the boxes fastened to the running board, the inventor gave Blunt one final injunction.

"Just remember that your brakes won't work very well so long as the anti-friction boxes are working. Those brakes work by friction. Better select a flat straightaway that is a little upgrade."

THEY reached such a spot shortly and Blunt shut off the power and started the machine coasting. Timothy Tompkins pressed the buttons.

The car kept on going. Not fast, but on and on. Then they came to a curve and Blunt suddenly yelled:

"Shut off the power! This car is not steering right!"

At last they came to a stop. Blunt took off his hat and wiped the sweat off his bald head.

"We went five miles without a bit of gasoline!" he gasped. "I can hardly believe it, but I saw it myself! You're got something here — something big, if it can be controlled. Our engineers will have to work out the proper proportions between the weight of the car and the friction surfaces. Come on back to the house and I'll give you five hundred dollars for a seven-day option on your invention."

Dinner had been ready for two hours when Timothy Tompkins got home. Caroline was not in the best of humors, but what he said cheered her up.

"We're eating out," he told her, laughing at her impatience. "At the best place you know. I made some of that household axle grease you were talking about. Five hundred dollars! And that's just a start! We're going to be rich, honey. At last I have something that is going to bring in money—more than you can ever spend!"

The next five days were busy ones for Timothy Tompkins. He, Blunt, and three expert engineers spent the time experimenting with the new power. Then Tompkins was handed five thousand dollars and asked to sign on the dotted line of the thirtieth page on an agreement. He read the first fifteen pages, but by that time was so confused by the legal wordage that he took the last fifteen pages for granted. He thought the five thousand was a first payment though Blunt had a different idea.

Tompkins and his wife went to Europe on a second honeymoon. They did not return for four months, which brought to an end a perfect vacation and a perfect five thousand dollars. The first thing the inventor did on his return was to take his X. & G. Railroad stocks and bonds to a stock

broker. He wanted to know their value since the new invention had gone into use.

The broker laughed shortly.

"They're worth about thirty cents a hundred pounds," he said. "Don't you know what happened?"

A worried frown creeping over his brow, the inventor shook his head. "No. I've been in Europe for four months."

"Hmm! Well, the X. & G. roads went smash. Blunt and his associates formed a new company and bought out every crippled railroad in the country—and every one of them is a paying proposition now. Looks as if they were headed for control of the entire railroad system of America. That new invention of theirs enables them to operate at a tenth of their former cost. They have the automobile manufacturers gasping. The truck business is at a standstill. Blunt and his associates probably have made several millions. But your stocks and bonds are just so much paper."

"So it worked?" Tompkins said slowly.

"What worked" asked the surprised broker.

"My invention. I sold the idea to Blunt. Well, at least I have an agreement with him."

"That agreement had better be shown to your lawyer," the broker advised bruskly. "Blunt is as smart a man as there is in the country—and about the crookedest."

Timothy Tompkins took that advice —and got one of the surprises of his life about what the lawyer found on the thirtieth page of the contract.

"It means, Mr. Tompkins," the lawyer explained, "that you will not get another red cent from him than the five thousand dollars you have already received."

"But he told me that was the first payment," objected the shocked inventor.

"And neglected to tell you it was also the last."

And that was that. But Tompkins discovered a number of other things during the next few days. For one thing, he learned that Blunt had bought the famous Metropolis Building where he occupied the two upper floors. And he learned that the anti-friction machine, c a r e f u l l y guarded by patents, was revolutionizing transportation by rail.

TWO months after Timothy Tompkins had returned from Europe, his betrayer, George Blunt, was faced with some startling information that stared out from the front pages of every newspaper. A dozen automobile and lubrication men who had come to the Metropolis Building to try to negotiate with Blunt had slipped and fallen on the polished marble floor in front of the ground floor elevators; most of them old men, with brittle bones. One had a severe head injury; three had broken wrists, one a dislocated hip joint, and several had bad ankle sprains.

"The total amount of damages asked for will be over a million dollars," the magnate's confidential lawyer told him.

"We will fight every one of them!" Blunt yelped angrily.

"But there will be more unpleasant newspaper publicity," the lawyer murmured. "And you know how you dislike it."

The next day there were similar inexplicable accidents in front of the elevator doors on the nineteenth floor. The following day the thirty-third floor seemed to be the sliding place. Damage suits were being filed every hour. It was Christmas time for the legal profession. When three hundred people fell on the first floor again the next day, hysteria reached a climax. Half of the tenants moved out.

Total damage suits against Blunt as owner of the building amounted to a million and a quarter. He had been doing a lot of thinking and a lot of sweating, but finally believed he knew what was happening. So he made a call at the home of Timothy Tompkins.

Mrs. Tompkins did not know where her husband was, she said. The last she had heard from him he had been on his way to China. She hoped Mr.

Blunt would find him as she was practically destitute. She cried, and he would have felt sorry for such a pretty woman if he had not been so concerned with his own troubles.

Nor was his mind eased the next day. Elevator service in his office building was at a standstill. The machinery in the basement was running wild. Flywheels were breaking from the terrific speed of their revolutions. And who could expect rich, elderly men to walk up thirty to fifty flights of stairs?

Blunt at once went into conference with the scientists who had worked for him making the anti-friction boxes practical for railroads.

"I KNOW what happened!" he exploded. "That idiot Tompkins is planting his little boxes around in strategic positions that's what! Everybody in this building is mad as hell about it—but that's not the worst. If he can do it here, he can do it anywhere. A smash-up on one of our railroad lines, two or three bad accidents, would make the passengers abandon them, no matter how low we put the rates! One of his little boxes will effect everything in its radius."

"Why don't you compromise with Tompkins?" suggested the chief engineer. "Or have him arrested, if you think he's the cause of all these accidents?"

"Got to find him first," growled the railroad magnate. "And I can't. Nobody can. I've got bills for over a hundred thousand dollars from the city's best detective agency. But no results. His wife says he's on his way to China." He snorted. "Maybe."

"Well, all I can say," one of his advisers remarked grimly, "is that you'd *better* find him. Before you have wrecks all over the place."

Blunt hated to do it, but he swallowed his fury and inserted a personal in the *Morning Blade*. It did not bring the inventor, but it brought his lawyer.

"For various reasons it is impossible for Mr. Tompkins to see you himself," the lawyer explained. "We feel that he was robbed when he signed a certain agreement with you he did not understand. He also had fifty thousand dollars worth of stocks and bonds in the X. & G. Railroad, and you know what happened to the value of that stock."

"What I did was legal!" snapped Blunt. "But what this insane man has done—why, it's only Providence that prevented anyone being killed."

The lawyer shrugged. "Perhaps. But he does not think so. He's a pretty desperate man, too, Mr. Blunt. Feels that he invented a device that should be given to the world, and wants the world to know about it and how it would add to the wealth and happiness of mankind. What are you going to do about it?"

"I'll give him a reasonable income for the rest of his life."

The lawyer laughed shortly. "Generous of you," he drawled. "But here's what he wants: He wants his device on every automobile, on every machine, in every home. He wants it to be given to the world just as insulin was. He declares that a hundred million of his little boxes scattered throughout the nation would bring back prosperity."

Blunt brought his fist down on his desk with a smash. "I won't do it!" he cried. "That's final!"

And that was the end of that conference.

The next day seven of the swankiest stores on Fifth Avenue were anonymously advised to notify customers that it would be dangerous to enter their stores between three and four o'clock. If they wanted further details, it was suggested they consult Mr. Blunt, the railroad magnate.

Naturally he declared he knew nothing about it and refused to accept any responsibility. Some refused to heed the warning, with the result that between three and four a choice collection of society matrons, casual strollers and dowagers slid, slipped, and skidded in front of these stores to their mutual distress and the frantic annoyance of the owners. Even the police could do nothing, though they besieged Blunt.

The railroad magnate figuratively

(Continued on Page 123)

DAWN of FLAME
A Complete Short Novel
By
STANLEY G. WEINBAUM

Black Margot

Immortal Margot can conquer the world—but not the heart of Hull Tarvish, who defies the Master of the Centuries!

CHAPTER I

The World

HULL TARVISH looked backward for the last time at the little mountainside cottage that had been his home. Then he faced about, purposefully, and strode away—out of Ozarky.

He passed the place where the great steel road of the Ancients had been, now only two rusty streaks and a row of decayed logs. Beside it was the mossy heap of stones that had been an ancient structure in the days before the Dark Centuries, three hundred years ago, when Ozarky had been a part of the old state of M'souri.

They had been mighty sorcerers, those ancients; their steel roads went everywhere, and everywhere were the ruins of their towns, built it was said, by a magic that lifted weights. Down in the valley, he knew, men were still seeking that magic.

Tarvish whistled to himself, shifted the rag bag on his shoulder, set his bow more comfortably on his mighty back, and trudged on. He was going to see what the world was like. He had been always a restless sort, not at all like the other six Tarvish sons. They were true mountainies. Not Hull, however; he was restless, curious, dreamy. So he whistled his way into the world, and was happy.

At evening he stopped at the Hobel cottage on the edge of the mountains. Away before him stretched the plain, and in the darkening distance was visible the church spire of Norse. That was a village; Hull had never seen a village. But he had heard all about Norse, because the mountainies occasionally went down there to buy powder and ball for their rifles, those of them who had rifles.

Hull had only a bow. Powder and ball cost money but an arrow did the same work for nothing, and that without scaring all the game a mile away.

Morning he bade good-by to the Hobels, and set off. His powerful, brown bare legs flashed under his ragged trousers, his bare feet made a pleasant *soosh* in the dust of the road, the June sun beat warm on his right cheek. He was happy; he was bound for adventure.

He swung placidly on toward Norse with a glistening spring-steel bow on his shoulder, and twenty-two bright tubular steel arrows in his quiver.

He stopped on a litle rise and the town lay before him. He stared. A hundred houses at least. More than he'd ever seen in his life all together. He stared at the houses, and at the people, most of them shod in leather.

Hull didn't care for Norse, he decided. As the sun set, the houses loomed too close, as if they'd stifle him, so he set out into the countryside. There he found a good place and slept.

He awoke dewy wet. The sun shot golden lances through the trees, and he was ravenously hungry. He ate the last of his mother's brown bread from his bag, then strode out to the road. There was a wagon creaking there plodding northward. The bearded, kindly man in it was glad enough to have him ride for company.

"Mountainy?" he asked.

"Yes."

"Bound where?"

"The world," said Hull.

"Well," observed the other, "it's a big place, and all I've seen of it much like this. All except Selui.* That's a city. Twenty thousand people in it! Maybe more. And they got ruins there the biggest you ever saw. Bridges. Buildings."

"Who lived in 'em?" asked Hull.

"Don't know. Who'd want to live so high up it'd taken a full morning to climb there? Unless it was magic. I don't hold much with magic but they do say the Old People knew how to fly."

"I don't believe it," Hull said.

"Nor I. But did you hear what they're saying in Norse?"

"I didn't hear anything."

"They say," said the farmer, "that Joaquin Smith is going to march again."

"Joaquin Smith!"

"Yes. Even the mountainies know about him, eh?"

* Selui: The ancient St. Louis.

"Who doesn't?" returned Hull. "Then there'll be fighting in the south, I guess. I have a notion to go south."

"Why?"

"I like fighting," said Hull simply.

"Fair answer," said the farmer, "but from what folks say, there's not much fighting when the Master marches. He has a spell; there's great sorcery in N'Orleans, from the merest warlock up to Martin Sair."

"I'd like to see his sorcery against arrow and ball," said Hull grimly. "There's none of us can't spot either eye at a thousand paces, using a rifle. Or two hundred with arrow."

"No doubt, but what if powder flames, and your guns fire themselves before he's even across the horizon? They say he has a spell for that, he or Black Margot." †

"Black Margot?"

"The Princess, his half-sister. The dark witch who rides beside him, the Princess Margaret."

"I don't know," said the other. "It makes small difference to me whether I pay my taxes to N'Orleans or to gruff old Marcus Ormiston, who's eldarch of Ormiston * village there."

"The mountainies pay taxes to no one." Hull was silent a moment. Then he burst out. "The Master, is he really immortal?"

The other shrugged. "How can I say? There are great sorcerers in the southlands, the greatest of whom is Martin Sair. But I do know this, that I have seen sixty-two years, and as far back as memory goes there was always Joaquin Smith in the south, and always an Empire gobbling cities as a hare gobbles carrots. When I was young it was far away, now it reaches close at hand; that is all the difference. Men talked of the Satanic beauty of Black Margot then as they do now, and of the wizardry of Martin Sair."

Hull made no answer, for Ormiston was at hand. The village was much like Norse save that it huddled among low hills, on the crest of some of which loomed ancient ruins. At the near side his companion halted, and Hull thanked him as he leaped to the ground.

He spun suddenly about as a voice called him from across the road: "Hi! Mountainy!" It was a girl. A pretty girl, slim-waisted, copper-haired, blue-eyed.

The voice of the farmer sounded behind him. "It's Vail Ormiston, the eldarch's daughter."

But Vail Ormiston was above much converse with a wandering mountainman. She surveyed his mighty form approvingly and then disappeared into the house.

But that afternoon, trudging toward Selui, he was richer than when he had set out by the memory of the copper hair and blue eyes of Vail Ormiston.

† It is a usual error of historians of the Conquest to speak of the Princess Margaret as either Margaret of Urbs or the Black Flame. Both terms are anachronisms. She was not known as the Black Flame until the time of the poet Sovern, as yet unborn, while of course Urbs, the vast, glittering, brilliant, wicked world metropolis and capital, was at this time only a dream in the mind of Joaquin Smith.

* Ormiston: The present village of Ormon.

Joaquin Smith

CHAPTER II

Old Einar

THREE weeks in Selui had served to give Hull Tarvish an acquaintaince with the place. He no longer gaped at the sky-piercing ruins of the ancient city, or the vast fallen bridges, and he was quite at home in the town that lay beside it. He had found work easily enough in a baker's establishment, where his great muscles served well. The hours were long, but his pay was munificent—five silver quarters a week.

Ordinarily Hull was quick to make friends, but his long hours hindered him. He had but one, an enormously old man who sat at evening on the step beyond his lodging, Old Einar.

"I wonder," he said to old Einar, staring at the crumbling towers of the Ancients glowing in the sunset, "what the Ancients were like. Were they men like us? Then how could they fly?"

"They were men like us, Hull. As for flying—well, it's my belief that flying is a legend. There was a man supposed to have flown over the cold lands to the north and those to the south, and also across the great sea.

"But this flying man is called in some accounts Bird and in others Lindbird, and surely one can see the origin of such a legend. The migrations of birds, who cross land and seas each year, that is all."

"Or perhaps magic," suggested Hull.

"There *is* no magic. The Ancients themselves denied it, and I have struggled through many a moldy book in their curious, archaic tongue!"

"You can read!" Hull exclaimed. "That in itself is a sort of magic."

Old Einar settled himself on the step and puffed blue smoke from his pipe. "Shall I tell you the true story of the world, Hull—the story called History?"

"Yes. In Ozarky we spoke little of such things."

"Well," said the old man comfortably. "I will begin, then, at what to us is the beginning, but to the Ancients was the end. Great steel wagons once roared over the iron roads of the Ancients. Men crossed the oceans to east and west. The cities were full of whirring wheels, and instead of the many little city-states of our time, there were giant nations with thousands of cities and a hundred million—a hundred and fifty million people."

Hull stared. "I do not believe there are so many people in the world," he said.

Old Einar shrugged. "Who knows?" he returned. "The ancient books—all too few—tell us that the world is round, and that beyond the seas lie one, or several other continents, but what races are there today not even Joaquin Smith can say."

He puffed smoke again. "Well, such was the ancient world. These were warlike nations, so fond of battle that they had to write many books about the horrors of war to keep themselves at peace, but they always failed. During the time they called their twentieth century there was a whole series of wars, not such little quarrels as we have so often between our city-states, nor even such as that between the Memphis League and the Empire, five years ago. *Their* wars spread like storm clouds around the world, and were fought between millions of men with unimaginable weapons that flung destruction a hundred miles and with ships on the seas, and with poisonous gases."

"*I* love fighting," said Hull.

"Yes, but would you love it if it meant simply the destroying of thousands of men beyond the horizon? Men you were never to see?"

"No. War should be man to man, or at least no farther than the carry of a rifle ball."

"True. Well some time near the end of their twentieth century, the ancient world exploded into war like a powder horn in a fire. It was not only nation against nation, but race against race. And then came the Gray Death."

"I have heard of the Gray Death," said Hull.

"At any rate, the Gray Death leaped suddenly across the world, striking alike at all people; six out of every ten died.

"By the first century after the Plague, there was little left of the Ancients save their ruined cities where lurked robber bands that scoured the country by night. They had little interest in anything save food or the coined money of the old nations, and they did incalculable damage. None or few could read, and on cold nights it was usual to raid the ancient libraries for books to burn, and to make things worse, fire gutted the ruins of all cities, and there was no organized resistance to it. The flames simply burned themselves out, and priceless books, vanished."

"Yet in N'Orleans they study, don't they?" asked Hull.

"Yes. I'm coming to that. About two centuries after the Plague—a hundred years ago, that is—the world had stabilized itself. And then, into the town of N'Orleans, built beside the ancient city, came young John Holland.

"Holland was a rare specimen, anxious for learning. He found the remains of an ancient library and began slowly to decipher the archaic words in the few books that had survived. Little by little others joined him, and the Academy was born.

"It was a group of studious men living a sort of communistic, monastic life. One day a youth named Teran had a dream—no less a dream than to recondition the centuries-old power machines of N'Orleans, to give the city the power that travels on wires!"

"What's that?" asked Hull. "What's that, Old Einar?"

"You wouldn't understand, Hull. It didn't stop Teran to realize that there was no coal or oil to run his machines. He believed that when power was needed, it would be there, so he and his followers scrubbed and filed and welded away, and Teran was right. When he needed power, it was there.

"This was the gift of a man named Olin, who had unearthed the last, the crowning secret of the Ancients, the power called atomic energy. He gave it to Teran, and N'Orleans became a miracle city where lights glowed and wheels turned. Men came from every part of the continent to see, and among these were two called Martin Sair and Joaquin Smith, come out of Mexico with the half-sister of Joaquin, the Satanically beautiful being sometimes called Black Margot.

"Martin Sair was a genius. He found his field in the study of medicine, and it was less than ten years before he had uncovered the secret of the hard rays. He was studying sterility, but he found—immortality!"

"Then the Immortals *are* immortal!" murmured Hull.

"It may be, Hull. At least they do not seem to age, but— Well, Joaquin Smith was also a genius, but of a different sort. I think he dreams of an American Empire, or"—old Einar's voice dropped—"a World Empire. At least, he took Martin Sair's immortality and traded it for power.

"The Second Enlightenment was dawning and there was genius in N'Orleans. He traded immortality to Kohlmar for a weapon, he offered it to Olin for atomic power, but Olin was already past youth, and refused. So the Master seized the secret of the atom despite Olin, and the Conquest began.

"Smith raised his army and marched north, and everywhere cities fell or yielded willingly. Joaquin Smith is magnificent, and men flock to him, cities cheer him. Only here and there men hate him bitterly, and speak such words as tyrant, and talk of freedom."

"What are they like, the Immortals?"

"Well, Martin Sair is as cold as mountain rock, and the Princess Margaret is like black fire. Even my old bones feel younger only to look at her, and it is wise for young men not to look at her at all, because she is quite heartless, ruthless, and pitiless. As for Joa-

quin Smith, the Master—I do not know the words to describe so complex a character, and I know him well. He is mild, perhaps, but enormously strong, kind or cruel as suits his purpose, glitteringly intelligent, and dangerously charming."

"You *knew* him!" echoed Hull, and added curiously, "What is your other name, Old Einar, you who know the Immortals?"

The old man smiled.

"When I was born," he said, "my parents called me Einar *Olin*."

CHAPTER III

The Master Marches

JOAQUIN SMITH was marching. Hull Tarvish leaned against the door of File Ormson's iron worker's shop in Ormiston, and stared at the blue mountains of Ozarky in the south. Report had it that Ozarky was already under the Master's sway. As for Selui, the Master, encamped above Norse, had requested the city's surrender.

Selui wasn't going to yield. Already the towns of the three months' old Selui Confederation were sending in their men, from Bloomington, from Cairo, even from distant Chicago on the shores of the saltless sea Mitchin.

Hull knew there was fighting ahead, and he had come to take part in it.

Ormiston was his home for the present, since he'd found work here with File Ormson, the squat iron-worker, broad-shouldered as Hull himself and a head shorter.

A voice sounded at his side. "Hull Tarvish! Are you too proud to notice humble folk?"

It was Vail Ormiston. He remembered pleasantly an evening two days ago when he had sat and talked with her on a bench by a tree.

And he remembered the walk through the fields when she had shown him the mouth of the great ancient storm sewer that had run under the dead city, and still stretched crumbling for miles underground toward the hills.

And then he recalled her story of how, when a child, she had lost herself in it, so that her father had planted the tangle of blackberry bushes that still concealed the opening.

He grinned, "Is it the eldarch's daughter speaking of humble folk? Your father will be taxing me double if he hears of this!"

Her eyes twinkled.

"I'd like to talk to you again this evening, Vail," he cried boldly.

"Would you?" she murmured demurely.

"Yes, if Enoch Ormiston hasn't spoken first for your time."

"But he has, Hull."

He knew she was teasing him deliberately. "I'm sorry," he said shortly.

"But—I told him I was busy," she finished.

"Then what a misfortune it is that I have work to do," Hull said.

"What does File make?" asked Vail.

Instantly Hull's smile faded. "He forges—a sword!"

Vail, too, was no longer the joyous one of a moment ago. Over both of them had come the shadow of the Empire. Out in the blue hills of Ozarky Joaquin Smith was marching.

Later that evening Hull watched the glint of a copper moon on Vail's copper hair, and leaned back on the bench near her house at the edge of town. Behind them the stone house loomed dark, for her father was scurrying about in town on Confederation business, and the help had availed themselves of the evening of freedom to join the crowd in the village square. But the yellow daylight of the oil-lamp showed across the road in the house of Hue Helm, the farmer who had brought Hull from Norse to Ormiston.

It was at this light that Hull stared thoughtfully.

A Master of Science Fiction

THE memory of the late Stanley G. Weinbaum's genius will endure forever. Perhaps the greatest popularizer of science fiction during the past decade, Stanley Weinbaum's stories are dear to every follower of fantasy prose.

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Stanley G. Weinbaum

"I *like* fighting," he repeated, "but somehow the joy has gone out of this. It's as if one waited the onslaught of a thunder cloud."

"How," asked Vail in a timid, small voice, "can one fight magic?"

"There is no magic," said the youth, echoing Old Einar's words.

"Then why is it that Joaquin Smith has never lost a battle?"

"Knowledge," said Hull. "The knowledge of the Ancients."

"The knowledge of the Ancients was magic," said the girl. "If Holland, Olin, and Martin Sair are not sorcerers, then what are they? If Black Margot is no witch, then my eyes never looked on one."

"Have you seen them?" queried Hull.

"Of course, all but Holland, who is dead. Three years ago during the Peace of Memphis my father and I traveled into the Empire. I saw all of them about the city of N'Orleans."

"And is she—what they say she is?"

"The Princess?" Vail's eyes dropped. "Men say she is beautiful."

"But you think not?"

"What if she *is*?" snapped the girl almost defiantly. "Her beauty is like her youth, like her very life—artificial, preserved after its allotted time, frozen. That's it—frozen by sorcery."

"At least," Hull returned, "there's no magic will stop a bullet save flesh and bone. Yes, and the wizard who stops one with his skull lies just as dead as an honest man."

"I hope you're right," she breathed timidly. "Hull, he must be stopped. He *must!* If Joaquin Smith takes Ormiston, my father is the one to suffer. His lands will be parceled out. He's old, Hull—old. What will become of him then? I know many people feel there is magic in the very name of Joaquin Smith, for he marches through armies that outnumber him ten to one." She paused. "But not Ormiston!" she cried fiercely. "Not if the women have to bear arms!"

"Not Ormiston," he agreed gently.

"You'll fight, Hull, won't you? Even though you're not Ormiston born?"

"Of course. I have bow and sword, and a good pistol. I'll fight."

"But no rifle? Wait, Hull."

In a moment she was back again. "Here. Here is a rifle and horn and ball. Send me a bullet through the Master's skull. And one besides between the eyes of Black Margot—for me!"

"I do not fight women," he said.

"Not woman but witch!"

"None the less, Vail, it must be two bullets for the Master and only the captive's chains for Princess Margaret."

"Yes!" she blazed. "Oh, yes, Hull, that's better. If I could ever hope to see that—" She rose suddenly, and he followed her to the gate. "You must go," she murmured, "but before you leave me, you can—if wish it, Hull—kiss me."

Of a sudden he was all shy mountainy again. He faced her flushing a furious red, but only half from embarrassment, for the rest was happiness. He circled her with his great arms and, very hastily, he touched his lips to soft ones.

"Now," he said exultantly, "now I will fight if I have to charge the men of the Empire by myself."

CHAPTER IV

The Battle of Eaglefoot Flow

THE men of the Confederation were pouring into Ormiston all night long. There was a rumble of wagons, bringing powder and ball from Selui, and food as well, for Ormiston couldn't even attempt to feed so many ravenous mouths. A magnificent army, ten thousand strong, and all of them seasoned fighting men.

The stand was to be at Ormiston, and Norse, the only settlement now between Joaquin Smith and the Confederation, was left to its fate. Experienced leaders had examined the territory, and had agreed on a plan. Three miles south of the town, the road followed an ancient railroad cut, with fifty-foot embankments on either side, heavily wooded for a mile north and south of the bridge across Eaglefoot Flow.

Along this course they were to distribute their men, a single line where the bluffs were high and steep, massed forces where the terrain permitted. Joaquin Smith *must* follow that road; there was no other. An ideal situation for ambush, and a magnificently simple plan.

It was mid-morning when the woods runners that had been sent into Ozarky returned with breath-taking news. Joaquin Smith had received the Selui defiance of his representations, and was marching, was close. His forces? The runners estimated them at four thousand men, all mounted, with perhaps another thousand auxiliaries. The Master's army was outnumbered two to one!

The time was at hand. In the little room beside File Ormson's workshop, Hull was going over his weapons while Vail Ormiston, pale and nervous and very lovely, watched him.

"Before you go," Vail whispered, "will you—kiss me, Hull?"

He strode toward her, then recoiled in sudden alarm. For he heard a series of the faintest possible clicks, and Hull fancied that he saw for an instant a glistening of tiny blue sparks on candle-sticks and metal objects about the room, and that he felt for a brief moment a curious tingling.

Then he forgot all of these strange trifles as the powder horn on the table roared into terrific flame, and flaming wads of powder shot meteorlike around him.

For an instant he froze rigid. Vail was screaming—her dress was burning! He moved into sudden action, sweeping her from her feet, crashing her sideward to the floor, where his great hands beat out the fire. Then he slapped table and floor; and finally there were no flames.

He turned, coughing and choking in the black smoke, and bent over Vail, who

gasped half overcome. Her skirt was burned to her knees.

"Are you hurt?" he cried. "Vail, are you burned?"

"No—no!" she panted.

"Then outside!" he snapped, reaching down to lift her.

Outside there was chaos. He set Vail gently on the step and surveyed a scene of turmoil. Men ran shouting, and from windows along the street black smoke poured. A dozen yards away a powder wagon had blasted itself into a vast mushroom of smoke, incinerating horses and driver alike.

"What—happened?" gasped Vail. "Hull, what—?"

He comprehended suddenly. "The sparkers*!" he roared. "Joaquin Smith's sparkers! Old Einar told me about them." He groaned. "There goes our ammunition."

He rushed toward the milling group that surrounded bearded old Marcus Ormiston and the Confederation leaders. He plowed his way fiercely through, and seized the panic-stricken graybeard.

He glared at the five leaders. "You'll carry through. Do you see? For powder and ball there's bow and sword. Gather your men and march!"

And such, within the hour, was the decision. Hull marched with the men of Ormiston. The Ormiston men were first on the line of the Master's approach, and they filtered to their forest-hidden places as silently as foxes. Hull let his eyes wander back along the cut and what he saw pleased him, for no eye could have detected that along the deserted road lay ten thousand fighting men. They were good woodsmen, too, these fellows from the upper river and the saltless seas.

Down the way from Norse a single horseman came galloping. Old Marcus Ormiston recognized him, stood erect, and hailed him. They talked; Hull could hear the words. The Master had passed through Norse, pausing only long enough to notify the eldarch that henceforth his taxes must be transmitted to N'Orleans.

The informant rode on toward Ormiston, and the men fell to their quiet waiting. A half hour passed, and then, faint drifting on the silent air, came the sound of music. Singing; men's voices in song. Hull listened intently, and his skin crept and his hair prickled as he made out the words of the Battle Song of N'Orleans.

Hull gripped his bow and set feather to cord. He knew well enough that the plan was to permit the enemy to pass unmolested until their whole line was within the span of the ambush. And now, far down the way beyond the cut, he saw dust rising. Joaquin Smith was at hand.

Then—the unexpected! Suddenly through the trees to his right, brown-clothed, lithe little men were slipping like charging shadows, horns sounding, whistles shrilling. The woods runners of the Master! Joaquin Smith had anticipated just such an ambush!

Instantly Hull saw the weakness of his forces. They were ten thousand, true enough, but here they were strung thinly over a distance of two miles, and now the woods runners were at a vast advantage in numbers, with the main body approaching. One chance! Fight it out, drive off the scouts, and retire to the woods. While the army existed, even though Ormiston fell, there was hope.

He shouted, strung his arrow, and sent it flashing through the leaves. A bad place for arrows; their arching flight was always deflected by the tangled branches. He slung bow on shoulder and gripped his sword; close quarters was the solution!

Then—the second surprise! The woods runners had flashed their own weapons, little blunt revolvers.* But they sent no bullets; only pale beams darted through the leaves and branches, faint blue streaks of light. Sorcery?

Hull learned its meaning instantly. His sword grew suddenly scorching hot in his hands, and a moment later the queerest pain he had ever encountered racked his body. A violent, stinging, inward tingle that twitched his muscles and paralyzed his movements. A brief second and the shock ceased, but his sword lay smoking in the leaves, and his steel bow had seared his shoulders. Around him men were yelling in pain, writhing on the ground, running back into the forest depths.

Yet apparently no man had been killed. Hands were seared and blistered by weapons that grew hot under the blue beams, bodies were racked by the torture that Hull could not know was electric shock, but none was slain. Hope flared again, and he ran to head off a retreating group.

"To the road!" he roared. "Out where our arrows can fly free! Charge the column!"

For a moment the group halted. Hull seized a yet unheated sword from someone, and turned back.

Below in the cut was the head of the column, advancing placidly. He glimpsed a silver-helmeted, black-haired man on a great white mare at its head, and beside him a slighter figure on a black stallion. Joaquin Smith! Hull roared down the embankment toward him. Four men spurred instantly between him and the figure with the silver helmet. A beam flicked; his sword scorched his skin and he flung it away.

"Come on!" he bellowed. "Here's a fight!"

Strangely, in curious clarity, he saw the eyes of the Empire men, a smile in them, mysteriously amused. No anger, no fear—just amusement. Hull glanced quickly be-

* The Erden resonators. A device, now obsolete, that projected an inductive field sufficient to induce tiny electrical discharges in metal objects up to a distance of many miles. Thus it ignited inflammables such as gunpowder.

* Kohlmar's ionic beams. Two parallel beams of highly actinic light ionize a path of air, and along these conductive lanes of gas an electric current can be passed, powerful enough to kill or merely intense enough to punish.

hind him, and knew finally the cause of that amusement. No one had followed him; he had charged the Master's army alone!

Deserted! Abandoned by those for whom he fought. He roared his rage to the echoing bluffs, and sprang at the horseman nearest him.

The horse reared, pawing the air. Hull thrust his mighty arms below its belly and heaved with a convulsion of his great muscles. Backward toppled steed and rider, and all about the Master was a milling turmoil where a man scrambled desperately to escape the clashing hoofs. But Hull glimpsed Joaquin Smith sitting statuelike and smiling on his great white mare.

He tore another rider from his saddle, and then, from the corner of his eye, he saw the slim youth at the Master's side raise a weapon, coolly, methodically. For the barest instant Hull faced icy green eyes where cold, passionless death threatened. He flung himself aside as a beam spat smoking against the dust of the road.

"Don't!" snapped Joaquin Smith, his low voice clear through the turmoil. "The youth is splendid!"

But Hull had no mind to die uselessly. He bent, flung himself halfway up the bluff in a mighty leap, caught a dragging branch, and swung into the forest. A startled woods runner faced him; he flung the fellow behind him down the slope and slipped into the shelter of leaves.

"The wise warrior fights pride," he muttered to himself. "It's no disgrace for one man to run from an army."

CHAPTER V

Black Margot

HULL found File Ormson in the group that started across town to where the road from Norse elbowed east to enter. Hull had outsped the leisurely march of the Master, for there at the bend was the glittering army, now halted. Not even the woods runners had come into Ormiston town, for there they were too, lined in a brown-clad rank along the edge of the wood-lots beyond the nearer fields.

They had made no effort, apparently, to take prisoners, but had simply herded the terrified defenders into the village. Joaquin Smith had done it again; he had taken a town without a single death or at least with no casualties than whatever injuries had come from bursting rifles and blazing powder.

Suddenly Hull noticed something. "Where are the Confederation men?" he asked sharply.

File Ormson turned gloomy eyes on him. "They've fled." He scowled, then smiled. "You're a brave fool, Hull. Think not hard of us. Those fiendish ticklers tickled away our courage. But they can kill as well as tickle; when there was need of it before Memphis they killed quickly enough."

Down the way there was some sort of stir. Hull descried the silver helmet of the Master. He dismounted and faced someone; it was—yes, old Marcus Ormiston. He left File Ormson and shouldered his way to the edge of the crowd that circled the two.

Joaquin Smith was speaking.

"And," he said, "all taxes are to be forwarded to N'Orleans, including those on your own lands. Half of them I shall use to maintain my government, but half will revert to your own district. You are no longer eldarch, but for the present you may collect the taxes at the rate I prescribe."

Old Marcus was bitterly afraid.

"My—my lands?" he whined.

Joaquin Smith turned away indifferently, placed foot to stirrup, and swung upon his great white mare.

Tall as Hull himself, more slender, but with powerful shoulders, he seemed no older than the late twenties, or no more than thirty at most, though that was only the magic of Martin Sair, for more than eighty years had passed since his birth in the mountains of Mexico. His bronzed body was like the ancient statues Hull had seen in Selui, and he looked hardly the fiend that most people thought him.

He rose forward, and a dozen officers followed.

A voice, a tense, shrieking voice sounded behind Hull.

"You! It is Hull! It's you!" It was Vail, teary-eyed and pale. "They said you were—" She broke off sobbing, clinging to him, while Enoch Ormiston watched sourly.

He held her. "It isn't as bad as it might be," he consoled. "He wasn't as severe as I feared."

"Severe!" she echoed. "Do you believe those mild words of his, Hull? First our taxes, then our lands, and next it will be our lives—or at least my father's life. Don't you understand? That was no eldarch from some enemy town, Hull. That was Joaquin Smith. Joaquin Smith! He and Black Margot and their craft! *Look there!*"

He spun around For a moment he saw nothing save the green-eyed youth who had turned death-laden eyes on him at Eaglefoot Flow mounted on the mighty black stallion. Youth? He saw suddenly that it was a woman—a girl, rather. Eighteen—twenty-five? He couldn't tell. The sunset fell on a flaming black mop of hair, so black that it glinted blue—an intense, unbelievable black.

Like Joaquin Smith she wore only a shirt and very abbreviated shorts. There was a curious grace in even the way she sat the idling steed, one hand on its haunches, the other on withers, the bridle dangling loose.

"Black Margot!" Hull whispered. "Brazen! Half naked! What's so beautiful about *her?*"

As if she heard his whisper, she turned suddenly, her emerald eyes sweeping the crowd about him, and he felt his question answered. Her beauty was starkly incredible—audacious, outrageous.

Those eyes met Hull's, and it was almost as if he heard an audible click. He saw recognition in her face, and she passed her glance casually over his mighty figure. If she acknowledged his gaze at all, it was by the faintest of all possible smiles of mockery

as she rode coolly away toward Joaquin Smith.

"She—she smiled at you, Hull!" gasped Vail. "I'm frightened."

His fascination was yielding now to a surge of hatred for Joaquin Smith, for the Princess, for the whole Empire. It was Vail he loved, and she was being crushed by these. An idea formed slowly as he stared down the street where Joaquin Smith had dismounted and was now striding into the little church. He heard an approving murmur sweep the crowd. That was simply policy, the Master's worshipping in Ormiston church, a gesture to the crowd.

He lifted the steel bow from his back and bent it. The spring was still in it. "Wait here!" he snapped to Vail, and strode up the street toward the church.

Outside stood a dozen Empire men, and the Princess idled on her great black horse. He slipped across the churchyard, around behind where a tangle of vines stretched toward the roof. He pulled himself hand over hand to the eaves, and thence to the peak.

He crept forward to the base of the steeple. Now he must leave the peak and creep precariously along the steep slope around it. He reached the street edge and peered cautiously over.

The Master was still within. Against his will he glanced at Black Margot, and even put cord to feather and sighted at her ivory throat. He could not loose the shaft.

Below him there was a stir. Joaquin Smith came out and swung to his white horse. Now was the moment. Hull rose to his knees, hoping that he could remain steady on the sharp pitch of the roof. Carefully, carefully, he drew the steel arrow back.

There was a shout. He had been seen, and a blue beam sent racking pain through his body. For an instant he bore it, then loosed his arrow and went sliding down the roof edge and over.

He fell on soft loam. A dozen hands seized him, dragged him upright, thrust him out into the street. He saw Joaquin Smith still on his horse, but the glistening arrow stood upright like a plume in his silver helmet, and a trickle of blood was red on his cheek.

But he wasn't killed. He raised the helmet from his head, waved aside the cluster of officers, and with his own hands bound a white cloth about his forehead. Then he turned cool gray eyes on Hull.

"You drive a strong shaft," he said, and then recognition flickered in his eyes. "I spared your life some hours ago, did I not?"

Hull said nothing.

The conqueror turned away. "Lock him up," he ordered coolly. "Let him make whatever preparations his religion requires, and then—execute him."

Above the murmur of the crowd Hull heard Vail Ormiston's cry of anguish. He turned to smile at her.

"I'm sorry," he called gently. "I loved you, Vail." Then he was being thrust away down the street.

He was pushed into Hue Helm's stone-walled tool shed. Hull drew himself up and stood passively by the door, before which stood two grim Empire men.

One of them spoke. "Keep peaceful, Weed,"* he said in his N'Orleans drawl. "Go ahead with your praying."

"I do nothing," said Hull. "The mountainies believe that a right life is better than a right ending, and right or wrong a ghost's but a ghost anyway."

The guard laughed. "And a ghost you'll be."

"If a ghost I'll be," retorted Hull, turning slowly toward him, "I'd sooner turn one—fighting!"

He sprang suddenly, crashed a mighty fist against the arm that bore the weapon, thrust one guard upon the other, and overleaped the tangle into the dusk. As he spun to circle the house, something very hard smashed viciously against the back of his skull.

CHAPTER VI

The Harriers

FOR a brief moment Hull sprawled half stunned, then his muscles lost their paralysis and he thrust himself to his feet, whirling to face whatever assault threatened. In the doorway the guards still scrambled, but directly before him towered a rider on a black mount, and two men on foot flanked him. The rider, of course, was the Princess, her green eyes luminous in the dusk as she slapped a short sword into its scabbard. It was a blow from the flat of its blade that had felled him.

She held now the blunt weapon of the blue beam. "Stand quiet, Hall Tarvish," she said. "One flash will burst that stubborn heart of yours forever."

Perforce he stood quiet, his back to the wall of the shed.

She spoke again, letting her glance flicker disdainfully over the two appalled guards. "The Master will be pleased," she said contemptuously, "to learn that one unarmed Weed outmatches two men of his own cohort."

"But your Highness," the nearer men faltered, "he rushed us unexpect—"

"No matter," she cut in, and turned back to Hull. For the first time now he really felt the presence of death as she said coolly, "I am minded to kill you."

"Then do it!" he snapped.

"But I think also," she resumed, "that your living might amuse me more than your death, and"—for the first time there was a breath of feeling in her voice—"God knows I need amusement!" Her tones chilled again. "I give you your life."

"Your Highness," muttered the cowed guard, "the Master has ordered—"

"I countermand the orders," she said shortly, and then to Hull, "You are a fighter. Are you also a man of honor?"

"If I'm not," he retorted, "the lie that

* Weed: The term applied by Dominists (the Master's partisans) to their opposers. It originated in Joaquin Smith's remark before the Battle of Memphis: "Even the weeds of the fields have taken arms against us."

says I am would mean nothing to me."

She smiled coldly.

"Well, I think you are, Hull Tarvish. You go free on your word to carry no weapons, and your promise to visit me this evening in my quarters at the eldarch's home." She paused. "Well?"

"I give my word."

"And I take it. Away, all of you!" she ordered. She rode off toward the street.

Hull let himself relax against the wall with a low "whew!" Sweat started on his cold forehead, and his mighty muscles felt weak.

He wanted to find Vail, to use her cool loveliness as an antidote for the dark poison of the beauty he had been facing. And then, at the gate, he drew back suddenly. A group of men in Empire garb came striding by, and among them, helmetless and with his head bound, moved the Master.

His eyes fell on Hull.

"You again!" he said. "How is it that you still live, Hull Tarvish?"

"The Princess ordered it."

The frown faded. "So," said Joaquin Smith slowly, "Margaret takes it upon herself to interfere somewhat too frequently. I suppose she also freed you?"

"Yes, on my promise not to bear arms."

There was a curious expression in the face of the conqueror.

"Well," he said almost gently, "it was not my intention to torture you, but merely to have you killed for your treason. It may be that you will soon wish that my orders had been left unaltered." He strode on into the eldarch's dooryard.

Hull hurried toward his room beside File Ormson's shop, and there, tragic-eyed and mist-pale, he found Vail Ormiston. She was huddled on the doorstep with Enoch holding her against him.

Vail looked up with uncomprehending eyes, stared for a moment without expression, and, then, with a little moan, crumpled and fainted.

She was unconscious only a few moments, scarcely long enough for Hull to bear her into his room. There she lay now on his couch, clinging to his great hand, convinced at last of his living presence.

"I think," she murmured, "that you're as deathless as Joaquin Smith, Hull. Tell me —tell me how it happened."

He told her. "Black Margot's to thank for it," he finished.

Enoch cut in. "Here's one for the Harriers, then" he said sourly. "The pack needs him."

"The Harriers?" Hull looked up puzzled.

"Oh, Hull, yes!" said Vail. "File Ormson's been busy. The Harriers are what's left of the army—the better citizens of Ormiston. The Master's magic didn't reach beyond the ridge, and over the hills there's still powder and rifles. And the spell is no longer in the valley, either. One of the men carried a cup of powder across the ridge, and it didn't burn."

The better citizens, Hull thought smiling. She meant of course those who owned land and feared a loss of it such as Marcus Ormiston had suffered. But aloud he said only, "How many men have you?"

"Oh, there'll be several hundred with the farmers across the hills." She looked into his eyes. "I know it's a forlorn hope, Hull, but—we've got to try. You'll help, won't you?"

"Of course. But all your Harriers can attempt is raids. They can't fight the Master's army."

"I know. I know it, Hull. It's a desperate hope."

"Desperate?" said Enoch suddenly. "Hull, didn't you say you were ordered to Black Margot's quarters this evening?"

"Yes."

"Then—see here! You'll carry a knife in your arm-pit. Sooner or later she'll want you alone with her, and when *that* happens, you'll slide the knife quietly into her ruthless heart! If you've courage!"

"Courage!" he growled. "To murder a woman!"

"Black Margot's a devil!"

Hull scowled. "I swore not to bear weapons."

"Swore to *her!*" snapped Enoch. "That needn't bind you."

"My word's given," said Hull firmly. "I do not lie."

Vail smiled. "You're right," she whispered, and as Enoch's face darkened, "I love you for it, Hull."

"Then," grunted Enoch, "if it's not lack of courage, do this. Lure her somehow across the west windows. We can slip two or three Harriers to the edge of the woodlot, and if she passes a window with the light behind her—well, they won't miss."

Vail's blue eyes pleaded. "That won't be breaking your word, Hull. Please. She's a sorceress. Please, Hull."

Bitterly he yielded. "I'll try, then." He frowned gloomily. "She saved my life, and— Well, which room is hers?"

"My father's. Mine is the western chamber, which she took for her—her maid. We," she said, "are left to sleep in the kitchen."

An hour later, having eaten, he walked somberly home with Vail. The guards let Vail in, but halted Hull. One of them ran exploratory hands about his body. "Orders of Her Highness," he explained gruffly.

Hull smiled. The Princess had not trusted his word too implicitly. In a moment the fellow had finished his search and swung the door open.

Hull entered. He had never seen the interior of the house and for a moment its splendor dazzled him. Carved ancient furniture, woven carpets, intricately worked standards for the oil lamps, and even a full-length mirror of ancient workmanship wherein his own image faced him.

Upstairs was a dimly lit hall where a guard stood silently. "The Princess Margaret?" he asked, but in place of answer came the liquid tones of Margaret herself. "Let him come in, Corlin."

A screen within the door blocked sight of the room. Hull circled it, steeling himself against the memory of that soul-burning loveliness he remembered. But his defense was shattered by the shock that awaited him.

The screen, indeed, shielded the Princess from the sight of the guard in the hall, but not from Hull's eyes. He stared appalled at the sight of her lying in indifference in a great tub of water, being bathed by one of her women. He could not avoid a single glimpse of her exquisite form.

"Oh, sit down!" she said contemptuously. "This will be over in a moment."

He kept his eyes averted while water splashed and a towel whisked sibilantly. When he heard her footsteps beside him he glanced up tentatively, still fearful of what he might see, but she was covered now in a full robe of filmy black and gold that made her seem taller.

Hull felt against the fascination against which he had steeled himself.

"So," she said. "You may sit down again. "I do not demand court etiquette in the field." She sat opposite, and produced a black cigarette, lighting it at the chimney of the lamp on the table.

"Now," she said with a faintly ironic smile, "tell me what they say of me here."

"They call you witch."

"And do they hate me?"

"Hate you?" he echoed thoughtfully. "At least they will fight you and the Master to the last feather on the last arrow."

"Of course. The young men will fight—except those that Joaquin has bought with the eldarch's lands—because they know that once within the Empire, fighting is no more to be had. No more joyous, thrilling little wars between the cities, no more boasting, and parading before the pretty provincial girls." She paused. "And you, Hull Tarvish—what do you think of me?"

"I call you witch for other reasons."

The Princess looked narrowly at him. "Tell me," she said, "was that the eldarch's pretty daughter who cried so piteously after you there before the church?"

"Yes."

"And do you love her?"

"Yes." This was the opening he had sought. He took the opportunity grimly. "I should like to ask one favor."

"Ask it."

"I should like to see the chamber that was to have been our bridal room. The west chamber."

The Princess laughed disdainfully. "Go see it then."

For a moment he feared, or hoped, perhaps, that she was going to let him go alone. Then she rose and followed him to the hall, and to the door of the west chamber.

CHAPTER VII

Betrayal

HULL paused at the door of the west chamber to permit the Princess to enter. Her glorious green eyes flashed speculatively to his face, then she stepped back.

"You first, Weed," she commanded.

He did not hesitate. He turned and strode into the room, hoping that the Harrier riflemen, if indeed they lurked in the copse, might recognize his mighty figure in time to stay their eager trigger fingers. His scalp prickled as he moved steadily across the window, but nothing happened.

Behind him the Princess laughed softly. "I have lived too long in the aura of plot and counterplot in N'Orleans," she said. "I mistrust you without cause, honest Hull Tarvish."

Her words tortured him. He turned to see her black robe mold itself to her body as she moved, and, as sometimes happens in moments of stress, he caught an instantaneous picture of her with his sense so quickened that it seemed as if she, himself, and the world were frozen into immobility.

He remembered her forever as she was then, with her limbs in the act of striding, her green eyes soft in the lamplight. Witch and devil she might be, but she looked like a dark-haired angel, and in that moment his spirit revolted.

"No!" he bellowed, and sprang toward her, striking her slim shoulders with both hands in a thrust that sent her staggering back into the hallway, there to sit hard and suddenly on the floor beside the amazed guard.

She sprang up instantly, and there was nothing angelic now in her face. "You—hurt—me!" she hissed. "Me! Now I'll—" She snatched the guard's weapon from his belt, thrust it full at Hull's chest, and sent the blue beam humming upon him.

It was pain far worse than that at Eaglefoot Flow. He bore it stolidly, grinding into silence the groan that rose in his throat.

"Treachery again!" she said. "I won't kill you, Hull Tarvish. I know a better way." She whirled toward the stair-well. "Lebeau!" she called. "Lebeau! There's—" She glanced sharply at Hull, and continued, *"Il ya des tirailleurs dans le bois. Je vais les tirer en avant!"** It was the French of N'Orleans, as incomprehensible to Hull as Aramaic.

"I've a mind," she blazed, "to strip the Weed clothes from the eldarch's daughter and send her marching across the window!"

He was utterly appalled. "She—she—was in town!" he gasped, then fell silent at the sound of feet below.

"Well, there's no time," she retorted. "So, if I must—" She strode steadily into the west chamber, paused a moment, and then stepped deliberately in front of the window!

Hull was aghast. He watched her stand so that the lamplight must have cast her perfect silhouette full on the pane, stand tense and motionless for the fraction of a breath, and then leap back so sharply that her robe billowed away from her body.

She had timed it to perfection. Two shots crashed almost together, and the glass shattered. And then, out in the night, a dozen beams criss-crossed, and, thin and clear in the silence after the shots, a yell of mortal anguish drifted up, and another, and a third.

The Princess Margaret smiled in malice, and sucked a crimson drop from a finger

* "There are snipers in the copse. I'll draw them out!"

gashed by flying glass. "Your treachery reacts. Instead of my betrayal, you have betrayed your own men."

Hull Tarvish bit his lip.

"Well," she said musingly, "you're rather more entertaining than I had expected."

He chose to ignore the mockery in her voice. "Perhaps," he said grimly.

"Why, then, did you weaken, Hull Tarvish? You might have had my life."

"I do not fight women," he said despondently. "I looked at you—and turned weak." A question formed in his mind. "But why did you risk your life before the window? You could have had fifty wood runners scour the copse."

She smiled, but there was a shrewd narrowness in her eyes. "Because so many of these villages are built above the underground ways of the Ancients—the subways, the sewers. How did I know that your assassin might slip into some burrow and escape? It was necessary to lure them into the disclosure."

Hull shadowed the gleam that shot into his own eyes. He remembered suddenly the ancient sewer in which the child Vail had wandered, whose mouth was hidden by blackberry bushes. So the Empire men were not aware of it!

"Your Highness," he said grimly, "unless you kill me now, I will be a bitter enemy to your Empire army."

"Perhaps less bitter than you think," she said softly. "See, Hull, the only three that know of your weakness are dead. No one can name you traitor or weakling."

"But *I* can," he returned somberly. "And you."

"Not I, Hull," she murmured. "I never blame a man who weakens because of me—and there have been many. Men as strong as you, Hull, and some that the world still calls great." She turned toward her own chamber. "Come in here," she said in altered tones. "Tell me, would you like to see the Great City, Hull?"

"You know I would."

She shrugged. "Oh, you can visit N'Orleans, of course, but suppose I offered you the chance to go as the—the *guest*, we'll say, of the Princess Margaret. What would you give for that privilege?"

"What would you ask for it?" he rejoined guardedly.

"Oh, your allegiance, perhaps. Or perhaps the betrayal of your little band of Harriers, who will be the devil's own nuisance to stamp out of these hills."

He looked up, startled that she knew the name. "The Harriers? How—"

She smiled. "We have friends among the Ormiston men. Friends bought with land," she added contemptuously. "But what of my offer, Hull?"

He scowled. "You say as your *guest*. What am I to understand by that?"

She leaned across the table, her exquisite green eyes on his, her hair flaming blue-black, her perfect lips in a faint smile. "What you please, Hull. Whatever you please."

"Do you mean," he said huskily, "that you'd do that for so small a thing as the destruction of a little enemy band? You, with the whole Empire at your back?"

She nodded. "It saves trouble, doesn't it?"

"And honesty, virtue, honor, mean as little to you as that? Is this one of your usual means of conquest? Do you ordinarily sell your—your favors for—"

"Not ordinarily," she interrupted coolly. "First I must like my co-partner in the trade. You, Hull—I like those vast muscles of yours, and your stubborn courage, and your slow, clear mind. You are not a great man, Hull, for your mind has not the cold fire of genius, but you are a strong one, and I like you for it."

"Like me!" he roared, starting up in his chair. "Yet you think I'll trade what honor's left me for—that! You think I'll betray my cause! You're wrong!"

She shook her head, smiling. "No. I wasn't wrong, for I thought you wouldn't."

"Oh, you did!" he snarled. "Then what if I'd accepted? What would you have done then?"

"What I promised." She laughed at his angry, incredulous face. "Don't look so shocked, Hull. I'm not little Vail Ormiston. I'm the Princess Margaret of N'Orleans, called Margaret the Divine by those who love me, and by those who hate me called—well, *you* must know what my enemies call me."

"I do!" he blazed. "Black Margot!" he rasped. "A good name for you!"

"Doubtless. But you fail to understand, Hull. I'm an Immortal. Would you have me follow the standards of death-bound Vail Ormiston?"

"Yes! By what right are you superior to her standards?"

Her lips had ceased to smile, and her eyes turned wistful. "By the right that I can act in no other way, Hull," she said softly. A tinge of emotion quavered in her voice. "Immortality!" she whispered. "Year after year after year of sameness. I have no sense of destiny like Joaquin, who sees before him Empire."

His anger had drained away. He was staring at her aghast, appalled.

"When killing palls and love grows stale, what's left? Did I say love? How can there be love for me when I know that if I love a man, it will be only to watch him age and turn wrinkled, weak, and flabby? And when I beg Joaquin for immortality for the man I love he flaunts before me that promise of his to Martin Sair, to grant it only to those already proved worthy. By the time a man's worthy he's old."

She went on tensely. "I tell you, Hull, that I'm so friendless and alone that I envy you death-bound ones! Yes, and one of these days I'll join you!"

He gulped. "My God!" he muttered. "Better for you if you'd stayed in your native mountains with friends, home, husband, and children."

"Children!" she echoed, her eyes misting with tears. "Immortals can't have children. Sometimes I curse Martin Sair and his hard rays. I don't want immortality; I want *life!*"

Hull found his mind in a whirl. He scarcely knew his own allegiance. "God!" he whispered. "I'm sorry!"

"And you, Hull—will you help me—a little?"

Suddenly some quirk of her dainty lips caught his attention. He stared incredulously into the green depths of her eyes. It was true. There was laughter there. She had been mocking him! And as she perceived his realization, her soft laughter rippled like rain or water.

"You—devil!" he choked. "You black witch! I wish I'd let you be killed!"

"Oh, no," she said demurely. "Look at me, Hull."

The command was needless. He watched her exquisite face.

"Do you love me, Hull?"

"I love Vail Ormiston," he rasped.

"But do you love *me?*"

He rose. "Whatever harm I can do your cause," he said, "that harm I will do. I will not be twice a traitor."

CHAPTER VIII

Torment

HULL looked down at noon over Ormiston valley, where Joaquin Smith was marching. At his side Vail Ormiston paused, and together they gazed silently over the Selui road, now black with riding men and rumbling wagons on their way to attack the remnant of the Confederation army in Selui. Three hundred soldiers and two hundred horsemen remained in Ormiston to deal with the Harriers, under Black Margot herself.

"Our moment comes tonight," Hull said soberly. "Our numbers all but equal theirs, and surprise is on our side."

Vail nodded. "The ancient tunnel was a bold thought, Hull. The Harriers are shoring up the crumbled places. Father is with them."

"He shouldn't be."

"But this is his hope, Hull. He lives for this."

"Small enough hope! Suppose we're successful, Vail. What will it mean save the return of Joaquin Smith and his army?"

"Oh, no!" cried Vail. "If our success means the end of Black Margot, isn't that enough? Besides, you know that half the Master's powers are the work of the witch. Enoch—poor Enoch—said so."

Hull winced. Enoch had been one of the three marksmen slain outside the west window.

"Enoch," she repeated softly. "He loved me in his sour way, Hull, but once I had known you, I had no thoughts for him."

Hull slipped his arm about her, cursing himself that he could not steal his thought away from Margaret of N'Orleans, because it was Vail he loved, and Vail he wanted to love. But he could not blot Margaret's Satanic loveliness from his inward gaze.

"Well," he sighed, "let it be tonight, then. Was it four hours past sunset? Good. The Empire men should be sleeping or gaming in Tigh's Tavern by that time. It's for us to pray for our gunpowder."

"Gunpowder? Oh, but didn't you hear what I told File Ormson and the Harriers, back there on the ridge? The casters of the spell are gone; Joaquin Smith has taken them to Selui. I watched and listened from the kitchen this morning."

"The sparkers? They're gone?"

"Yes. They called them reson—resators—"

"Resonators," said Hull, recalling Old Einar's words.

"Something like that. There were two of them, great iron barrels on swivels, and they swept the valley north and south, and east and west, and over toward Norse there was the sound of shots and the smoke of a burning building. They loaded them on wagons and dragged them away toward Selui."

"They didn't cross the ridge with their spell," * said Hull. "The Harriers still have powder."

"Yes," murmured Vail, drawing his arm closer about her. "Tell me," she said suddenly, "what did she want of you last night?"

Hull hesitated for a moment. "Treason," he said finally. "She wanted me to betray the Harriers."

"What did she offer you for betrayal?"

Again he hesitated. "A great reward," he answered at last. "A reward out of all proportion to the task."

"But in what way? Men say so much of her beauty, of her deadly charm. Hull—did you feel it?"

"I love *you*, Vail."

She sighed, and drew yet closer. "I think you're the strongest man in the world, Hull. The very strongest."

"I'll need to be," he muttered, staring gloomily over the valley.

Vail left him in Ormiston village and took her way hesitantly homeward. Hull did what he could about the idle shop, and when the sun slanted low, bought himself a square loaf of brown bread, a great slice of cheese, and a bottle of wine. It was just as he finished his meal in his room that a pounding on the door of the shop summoned him.

It was an Empire man. "From Her Highness," he said, and handed him an intricately folded slip of black paper.

The mountain youth stared at it.

"This scratching means nothing to me," Hull said.

The Empire man sniffed contemptuously. "I'll read it," he said, taking the missive. "It says, 'Follow the messenger to our quarters,' and it's signed *Margarita Imperii Regina*, which means Margaret, Princess of the Empire."

"Suppose I won't go," growled Hull.

"This isn't an invitation, Weed. It's a command."

Hull grunted assent and followed the messenger.

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* The field of the Erden resonator passes readily through structures and walls, but is blocked by any considerable natural obstructions, hills, and for some reason, fog-banks or low clouds.

This time, however, he found the Princess clothed, wearing the diminutive shorts and shirt that were her riding costume. She sat in a deep chair beside the table, a flagon of wine at hand and a black cigarette in her fingers. Her jet hair was like a helmet of ebony against the ivory of her forehead and throat, and her green eyes like twin emeralds.

"Sit down," she said as he stood before her. Fire danced in her eyes. "Hull, I am as strong as most men, but I believe those vast muscles of yours could overpower me as if I were some shrinking provincial girl. And yet—"

"And yet what?"

"And yet you are much like my black stallion Eblis. Your muscles are nearly as strong, but like him, I can goad you, drive you, lash you, and set you galloping in whatever direction I choose."

"Can you?" he snapped. "Don't try it." But the spell of her unearthly beauty was hard to face.

"But I think I shall try it," she said gently. "Hull, do you ever lie?"

"I do not."

"Shall I make you lie, then, Hull? Shall I make you swear such falsehoods that you will redden forever afterward at the thought of them?"

"You can't!"

"Do you love me?" Her face was saintlike, earnest, pure, even the green eyes were soft now as the green of spring.

"No!" he ground out savagely, then flushed crimson at the smile on her lips. "That isn't a lie!" he blazed. "*I* don't love your beauty. It's unnatural, hellish, and the gift of Martin Sair. It's a false beauty, like your whole life!"

"Suppose," she proceeded gently, "I were to promise to abandon Joaquin, to be no longer Black Margot and Princess of the Empire, but to be only—Hull Tarvish's wife. Between Vail and me, which of us would you choose?"

He said nothing for a moment. "You're unfair," he said bitterly at last. "Is it fair to compare Vail and yourself? She's sweet and loyal and innocent, but you—you're Black Margot!"

"Nevertheless," she said calmly, "I think I shall compare us. Sora!" A woman appeared. "Sora, this wine is gone. Send the eldarch's daughter here with another bottle and a second goblet."

Hull stared appalled. "What are you going to do?"

"No harm to your little Weed. I promise no harm."

"But—" He paused. Vail's footsteps sounded on the stair, and she entered timidly bearing a tray with a bottle and a metal goblet. He saw her start as she perceived him, but she only advanced quietly, set the tray on the table, and backed toward the door.

"Wait a moment," said the Princess. She rose and moved to Vail's side as if to force the comparison on Hull. Barefooted, the Princess Margaret was exactly the height of Vail in her low-heeled sandals, and she was the merest shade slimmer.

But her startling black hair and her glorious green eyes seemed almost to fade the unhappy Ormiston girl's to a colorless dun. It wasn't fair. Hull realized that it was like comparing candlelight to sunbeam.

"Hull," said the Princess, "which of us do you love?"

He saw Vail's lips twitch fearfully, and he remained stubbornly silent.

"I take it," said the Princess, smiling, "that your silence means you love *me* the more. Am I right?"

He was in utter torment. His white lips twisted in anguish as he muttered finally. "Oh, God! Then yes!"

She smiled softly. "You may go," she said to the pallid and frightened Vail.

But for a moment the girl hesitated. "Hull," she whispered, "Hull, I know you said that to save me. I don't believe it, Hull, and I love you. I blame—her!"

"Why do you delight in torture?" cried Hull after Vail had left. "You're cruel as a cat."

"That wasn't cruelty," said the Princess gently. "It was but a means of proving what I said, that your mighty muscles are well-broken to my saddle."

"If that needed proof," he muttered.

"It needed none. There's proof enough, Hull, in what's happening even now, if I judge the time rightly. I mean your Harriers slipping through their ancient sewer right into my trap behind the barn."

He was thunderstruck. "You—are you—you *must* be a witch!" he gasped.

"Perhaps. But it wasn't witchcraft that led me to put the thought of that sewer into your head, Hull. Do you remember now that it was *my* suggestion, given last evening there in the hallway? I knew quite well that you'd put the bait before the Harriers."

His brain was reeling. "But why—why—"

"Oh," she said indifferently, "it amused me to see you play the traitor twice, Hull Tarvish."

CHAPTER IX

The Trap

THE Princess stepped close to him, her magnificent eyes gentle as an angel's. "Poor, strong, weak Hull Tarvish!" she breathed. "Now you shall have a lesson in the cost of weakness!"

He scarcely heard her. His gyrating mind struggled with an idea. The Harriers were creeping singly into the trap, but they could not all be through the tunnel. If he could warn them — His eyes shifted to the bell-pull in the hall beside the guard, the rope that tolled the bronze bell in the belfry to summon public gatherings, or to call aid to fight fires.

His great arm flashed suddenly, sweeping the Princess from her feet and crashing her dainty figure violently against the wall. Then he was upon the startled guard, thrusting him up and over the rail of the stair-well to drop with a sullen bump below. And then he threw his weight on the bell-rope, and the great voice of bronze boomed out, again and again.

But Black Margot was on her feet, with

the green hell-sparks flickering in her eyes and her face a lovely mask of fury. Men came rushing up the stairs with drawn weapons. Hull gave a last tug on the rope and turned to face death. Half a dozen weapons were on him.

"Hold him—for—me!" gasped the Princess. "Take him—to the barn!"

Behind the barn a close-packed mass of dark figures huddled near the mouth of the ancient tunnel where the bushes were trampled away, and a brown-clad file of Empire woods runners surrounded them. A few figures lay sprawled on the turf, and Hull smiled a little as he saw that some were Empire men. Then his eyes strayed to the Princess where she faced a dark-haired officer.

"How many, Lebeau?"

"A hundred and forty or fifty, Your Highness."

"Not half! Why are you not pursuing the rest through the tunnel?"

"Because, Your Highness, one of them pulled the shoring and the roof down upon

shook her ebony flame of hair. "How can I? I remained here purposely to wipe them out."

"I ask their lives," he repeated.

A curious, whimsical fire danced green in her eyes. "I will try," she promised. "Lebeau!" she snapped. "Hold back a while."

She strode into the gap between the prisoners and her own men. Hand on hip she surveyed the Harriers, while the moonlight lent her beauty an aura that was incredible, unearthly.

"Now," she said, passing her glance over the group, "on my promise of amnesty, how many of you would join me?"

Two figures moved forward, and the Harriers stirred angrily. Hull recognized the men; they were stragglers of the Confederation army, Chicago men, good fighters but merely mercenaries, changing sides as mood or advantage moved them.

"You two," said the Princess, "are you Ormiston men?"

"No," said one. "Both of us come from the shores of Mitchin."

Another Complete Novel in the Next Issue of

THRILLING WONDER STORIES

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RACE AROUND THE MOON

A Novel of Lunar Conquest

By OTIS ADELBERT KLINE

•

A THRILLING FLIGHT TO A WORLD THAT ASTRONOMERS CLAIMED WAS DEAD AND COLD FOR CENTURIES!

himself, and blocked us off. We're digging him out now."

"By then they'll have left their burrow." She strode over to Hull. "Where does this tunnel end?"

File Ormson's great voice rumbled out of the mass of prisoners. "Hull! Hull! Was this trap your doing?"

Hull made no answer, but Black Margot herself replied. "No," she snapped, "but the warning bell was."

"Then why do you spare him?"

Her eyes glittered icy green. "To kill in my own way, Weed," she said icily.

Her eyes blazed chill emerald fire into Hull's. He met her glance squarely, and said in a low voice, "Do you grant any favors to a man about to die?"

"I am not disposed to grant favors to you, Hull Tarvish, who have twice laid hands of violence on me."

His voice dropped almost to a whisper. "It is the lives of my companions I ask."

She raised her eyebrows in surprise, then

"Very well," she said calmly. With a movement swift as arrow flight she snatched her weapon from her belt, the blue beam spat twice, and the men crumbled, one with face burned carbon-black, and both sending forth an odorous wisp of flesh-seared smoke.

She faced the aghast group. "Now," she said, "who is your leader?"

File Ormson stepped forth, scowling and grim. "What do you want of me?"

"Will you treat with me? Will your men follow your agreements?"

File nodded. "They have small choice."

"Good. Now that I have sifted the traitors from your ranks I shall make my offer." She smiled at the squat ironsmith. "Would you, with your great muscles and warrior's heart follow a woman?"

The scowl vanished in surprise. "Follow you? *You?*"

"Yes." Hull watched her in fascination as she used her voice, her eyes, her unearthly beauty intensified by the moonlight, all on hulking File Ormson. "Yes, I mean to fol-

low me," she repeated softly. "You are brave men, all of you."

"But" — File gulped, "our others —"

"I promise you need not fight against your companions. I will release any of you who will not follow me. And your lands—it is your lands you fight for, is it not? I will not touch one acre save the eldarch's." She paused. "Well?"

Suddenly File's booming laugh roared out. "By God!" he swore. "If you mean what you say, there's nothing to fight about! For my part, I'm with you!" He turned on his men. "Who follows me?"

The group stirred. A few stepped forward, then a few more, and then, with a shout, the whole mass. "Good!" roared File. He raised his great hard hand to his heart in the Empire salute. "To Black—To the Princess Margaret!" he bellowed. "To a warrior!"

She smiled and dropped her eyes as if in modesty. When the cheer had passed, she addressed File Ormson again. "You will send men to your others?" she asked. "Let them come in on the same terms."

"They'll come!" growled File.

The Princess nodded. "Lebeau," she called, "order off your men. These are our allies."

The Princess stepped close to Hull, smiling maliciously up into his perplexed face.

"Will you die happy now?" she asked softly.

"No man dies happy," he growled.

"I granted your wish, Hull."

"If your promises can be trusted," he retorted bitterly.

She shrugged. "I do not break my given word. The Harriers are safe."

Beyond her, men came suddenly from the tunnel mouth, dragging something dark behind them.

"The Weed who pulled down the roof, Your Highness," said Lebeau.

She glanced back of her, and pursed her dainty lips in surprise. "The eldarch! The dotard died bravely enough."

Vail slipped by with a low moan of anguish, and Hull watched her kneel desolate by her father's body. A spasm of pity shook him as he realized that now she was utterly, completely alone. Enoch had died in the ambush of the previous night, old Marcus lay dead here before her, and he, Hull, was condemned to death. He bent a slow, helpless, pitying smile on her, but there was nothing he could do or say.

And Black Margot, after the merest glance, turned back to Hull. "Now," she said, the ice in her voice again, "I deal with you!"

He faced her dumbly. "Will you have the mercy to deal quickly, then?" he muttered at last.

"Mercy? I do not know the word where you're concerned, Hull." She moved closer. "I cannot bear the touch of violence, Hull, and you have laid violent hands on me twice. Twice!"

"One was to save your life" he said, "and the other to rectify my own unwitting treason."

She smiled coldly. "Well argued, Hull, but you die none the less in the way I wish." She turned. "Back to the house!" she commanded, and he strode away between the six guards who still flanked him.

She led them into the lower room that had been the Master's. There she sat idly in a deep chair of ancient craftsmanship, lit a black cigarette at the lamp, and thrust her slim legs carelessly before her, gazing at Hull. But he, staring through the window behind her, could see Vail Ormiston weeping beside the body of her father.

"Now," said the Princess, "how would you like to die, Hull?"

"Of old age!" he snapped. "And if you will not permit that, then as quickly as possible."

"I might grant the second," she observed. "I *might*."

The though of Vail was still torturing him. At last he said, "Your Highness, is your courage equal to the ordeal of facing me alone? I want to ask something that I will not ask in others' ears."

She laughed contemptuously. "Get out!" she snapped at the silent guards. "Hull, do you think *I* fear *you*? I tell you your great muscles and stubborn heart are no more than those of Eblis, the black stallion. Must I prove it again to you?"

"No," he muttered. "God help me, but I know it's true. I'm not the match for Black Margot."

"Nor any other man," she countered. Then, more softly, "But if ever I do meet the man who can conquer me, if ever he exists, he *will* have something of you in him, Hull. Your great, slow strength, and your stubborn honesty, and your courage. I promise that." She paused, her face now pure as a marble saint's. "So say what you have to say, Hull. What do you ask?"

"My life," he said bluntly.

Her green eyes widened in surprise.

"You, Hull? *You* beg your life? *You?*"

"Not for myself," he muttered. "There's Vail Ormiston weeping over her father. Enoch, who would have married her and loved her, is dead in last night's ambush, and if I die, she's left alone. I ask my life for her. She'll die without someone to help her through this time of torment."

"Let her die, Hull, as I think you'll die in the next moment or so!"

Her hand rested on the stock of the weapon at her belt. "I grant you your second choice," she said coolly. "The quick death."

CHAPTER X

Old Einar Again

BLACK MARGOT ground out her cigarette with her left hand against the polished wood of the table top, but her right rested inexorably on her weapon.

A voice spoke behind Hull, a familiar, pleasant voice.

"Do I intrude, Margaret?"

He whirled. It was Old Einar, thrusting his good-humored, wrinkled visage through the opening he had made in the doorway. He grinned at Hull, flung the door wider,

and slipped into the chamber.

"Einar!" cried the Princess, springing from her chair. "Einar Olin! Are you still in the world?" Her tones took on suddenly the note of deep pity. "But so old—so old!"

The old man took her free hand. "It is forty years since last I saw you, Margaret—and I was fifty then."

"But so old!" she repeated. "Einar, have *I* changed?"

He peered at her. "Not physically, my dear. But from the stories that go up and down the continent, you are hardly the gay madcap that N'Orleans worshipped as the Princess Peggy, nor even the valiant little warrior they used to call the Maid of Orleans.

"Seeing you now, Margaret, I wonder instead if I were not very wise to refuse immortality. Youth is too great a restlessness to bear for so long a time, and you have borne it less than a century. What will you be in another fifty years? In another hundred, if Martin Sair's art keeps its power? What will you be?"

She shook her head; her green eyes grew deep and sorrowful.

"I don't know, Einar. I don't know. I might have been different, Elinar, had you joined us. I could have loved you, Einar."

"Yes," he agreed wryly. "I was afraid of that, and it was one of the reasons for my refusal. You see, I *did* love you, Margaret. All of us did at one time or another. 'Flame-struck,' we used to call it." He smiled reflectively. "Are any left save me of all those who loved you?"

"Just Jorgensen," she answered sadly. "That is if he has not yet killed himself in his quest for the secret of the Ancient's wings."*

"Well," said Olin dryly, "my years will yet make a mock of their immortality." He pointed a gnarled finger at Hull. "What do you want of my young friend here?"

Her eyes flashed emerald, and she drew her hand from that of Old Einar. "I plan to kill him."

"Indeed? And why?"

"Why?" her voice chilled. "Because he struck me with his hands. Twice."

The old man smiled. "But I think I shall ask you to forgive young Hull Tarvish."

"Why should I?" asked the Princess. "Why do you think a word from you can save him?"

"I am still Olin," said the aged one, meeting her green eyes steadily with his watery blue ones. "I still carry Joaquin's seal."

"As if that could stop *me!*" But the cold fire died slowly in her gaze, and again her eyes were sad. "But you are still Olin, the Father of Power," she murmured.

With a sudden gesture she thrust her weapon back into her belt. "I spare him again," she said, and then, in tones gone strangely dull: "It is a weakness of mine that I cannot kill those who love me in a certain way—a weakness that will cost me dear some day."

Olin twisted his old lips in that skull-like smile, turning to the silent youth.

"Hull," he said kindly, "if you're curious enough to tempt you luck further, listen to this old man's advice. Go twist the tail of a lion before you again try the wrath of Black Margot. And now get out of here."

"Not yet, Hull," snapped the Princess. "I have still my score to settle with you," She turned back to Olin. "Where do you wander now, Einar?"

"To N'Orleans. I am homesick besides for the Great City." He paused. "I have seen Joaquin. Selui has fallen."

"I know. I ride to meet him tonight."

"He has left Jacob Sair as governor."

"I know, Einar."

"He has sent representations to Chicago."

Old Einar shook his thin white hair. "What will be the end of this, Margaret?" he asked gently. "After Chicago is taken—what then?"

"Then the land north of the saltless seas, and east of them. N'York, and all the cities on the ocean shore. Later South America, Europe, Asia and Africa."

"And after all of them?"

"Afterward," she replied wearily, "we can rest. The fierce destiny that drives Joaquin surely cannot drive him beyond the boundaries of the world."

"And so," said Olin, "you fight your way around the world so that you can rest at the end of the journey. Then why not rest now, Margaret? Must you pillow your head on the globe of the planet?"

Fury flamed green in her eyes. She raised her hand and struck the old man across his lips, but it must have been lightly, for he still smiled.

"Fool!" she cried. "Then I will see to it that there is always war! Between me and Joaquin, if need be—or between me and anyone—anyone—so that I can fight!" She paused panting. "Leave me, Einar," she said tensely. "I do not like the things you bring to mind."

Still smiling, the old man backed away. At the door he paused. "I will see you before I die, Margaret," he promised, and was gone.

Slowly, almost wearily, the Princess turned to face Hull.

"Hull," she said gently, "what do you think of me now?"

"I think you are a black flame blowing cold across the world. I think a demon drives you."

"And do you hate me so bitterly?"

"I pray every second to hate you."

"Then see, Hull." With her little fingers she took his great hands and placed them about the perfect curve of her throat. "Here I give you my life for the taking. You have only to twist once with these mighty hands of yours and Black Margot will be out of the world forever." She paused. "Must I beg you?"

Hull felt as if molten metal flowed upward through his arms from the touch of her white skin. His fingers were rigid as metal bars, and all the great strength of them could not put one feather's weight of pressure on the

* He did, just one week after this date, the date of the Battle of Selui. He crashed at N'Orleans after a flight of thirty minutes in an atomic rocket of the Ring type.

soft throat they circled. And deep in the lambent emerald flames that burned in her eyes he saw again the fire of mockery—jeering, taunting.

"You will not?" she said, lifting away his hands, but holding them in hers. "Then you do not hate me?"

"You know I don't!" he groaned.

"And you do love me?"

"Please," he muttered. "Is it necessary to torture me? I need no proof of your mastery."

"Then say you love me."

"Heaven forgive me for it," he whispered, "but I do."

She dropped his hands and smiled. "Then listen to me, Hull. You love little Vail with a truer love, and month by month memory fades before reality. After awhile there will be nothing left in you of Black Margot, but there will be always Vail. I go now hoping never to see you again, but"—and her eyes chilled to green ice—"before I go I settle my score with you."

She donned her silver gauntlets, raised her hand.

"This for your treachery!" she said, and raked him savagely across his right cheek. Blood spouted, but he stood stolid. "This for your violence!" she said, and the silver gauntlet tore his left cheek. Then her eyes softened. "And this," she murmured, "for your love!"

Her arms circled him, her body was warm against him, and her exquisite lips burned against his. He felt as if he embraced a flame for a moment, and then she was gone, and a part of his soul went with her. When he heard the hoofs of the stallion Eblis pounding beyond the window, he turned and walked slowly out of the house to where Vail still crouched beside her father's body. She clung to him, wiped the blood from his cheeks, and strangely, her words were not of her father, or of the sparing of Hull's life, but of Black Margot.

"I knew you lied to save me," she murmured. "I knew you never loved her."

And Hull, in whom there was no falsehood, drew her close to him and said nothing.

But Black Margot rode north from Selui through the night. In the sky before her were thin shadows leading phantom armies, Alexander the Great, Attila, Genghis Khan, Tamerlane, Napoleon, and clearer than all, the battle queen Semiramis. All the mighty conquerers of the past, and where were *they*, where were their empires, and where, even, were their bones? Far in the south were the graves of men who loved her, all except Old Einar, who tottered like a feeble gray ghost across the world to find his.

At her side Joaquin Smith turned as if to speak, stared, and remained silent. He was not accustomed to the sight of tears in the eyes and on the cheeks of Black Margot.*

* All conversation ascribed to the Princess Margaret in this story is taken verbatim from an anonymous volume published in Urbs in the year 186, called "Loves of the Black Flame." It is credited to Jacques Lebeau, officer in command of the Black Flame's personal guard.

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A FASCINATING KNOWLEDGE TEST

ARE you a walking five-foot shelf? Is there a filing-cabinet in your cranium? Here's a new collection of scientific brain-teasers and cosmic conundrums. See if you can answer these without referring to the current edition of the World Almanac or your encyclopedia. But if it's all Einstein to you, turn to page 129 for answers.

POSITIVE OR NEGATIVE

ARE you hot or are you cold? Don your thinking caps, and see whether you can decide which of the following statements are true and which false. (Par—10 correct.)

1. A rainbow has never been photographed by a camera.
2. Two conditions essential for the formation of glaciers are low temperature and sufficient snowfall.
3. On the sun, except near a sun-spot, a magnetic needle would point nearly north, as it does on the Earth.
4. It is estimated that at least a quarter of all the stars are double or multiple stars.
5. A waterspout is a tornado at sea.
6. The "giant stars" were originally given that name because of their large size.
7. The unequal intervals between successive crossings of the meridian by the sun give rise to the discrepancies between the time of a clock and a sun-dial.
8. Basalt, diorite, rhyolite, and obsidian are all types of igneous rock.
9. Most stars have planetary systems.
10. Icebergs are broken-off ends of glaciers which have made their way into the sea.
11. The spectrum of the moon differs greatly from that of the sun's.
12. The object of pearl fishing is mainly to obtain the shell of the mother-of-pearl oyster.
13. The sun is never exactly where we seem to see it.
14. A current which is just able to move a two-pound rock will, when its velocity is doubled, be able to transport a similar rock weighing 128 pounds.
15. The most commonly used general pain reliever throughout the country today is acetylsalicylic acid.

TAKE A LETTER

Here are five incomplete scientific facts. There are two or three suggestions that will enable you to complete each statement correctly. You'll be doing par if you get three correct.

1. The freezing point of fresh water is 32°. That of sea water is: (a) 28°, (b) 30°, (c) 34°, (d) 36°.
2. When diabetes is present there is a deficiency of: (a) insulin, (b) adrenalin, (c) thyroxin, (d) red-blood corpuscles.
3. The only one of the Seven Wonders of the World standing today is the: (a) Hanging Gardens of Babylon, (b) Great Pyramid of Gizeh, (c) Colossus of Rhodes, (d) Pharos of Alexandria.
4. If you were in the Arctic you'd look in vain for: (a) mosses, (b) lichens, (c) trees, (d) fungi.
5. Of all the modern mechanical inventions probably the most marvelous is the: (a) steamship, (b) airplane, (c) locomotive, (d) submarine.

SCRAMBLE-OLOGY

How's your geology? The following words, when the letters are arranged in their proper sequence, all pertain to terms used in geology. Can you crack 'em? (Par—7 correct.)

1. vaal; 2. olnacov; 3. tarstum; 4. zosomcei; 5. cirelag; 6. yegers; 7. rsnoioe; 8. sositsay; 9. linceitna; 10. urjcsisa.

IF THE MOON FELL!
BY JACK BINDER
REINMUTH-1937-UB, HERMES, THE ASTEROID THAT PASSED WITHIN 362,000, MILES OF EARTH, MIGHT ON ONE OF ITS RETURN TRIPS PULL THE MOON FROM ITS ORBIT. THE MOON FALLS, LIKE A WORLD-SIZED BOMB! LOOMING GIGANTICALLY IN EARTH'S SKIES, ITS CRATERS AND RADIAL LINES ARE PLAINLY VISIBLE. ENORMOUSLY INCREASED LUNAR TIDES SWAMP ALL COASTS!
BUT THE MOON DOES NOT STRIKE EARTH'S SURFACE. WHEN IT IS 2½ RADII (ABOUT 10,000 MILES) AWAY, EARTH'S SUPERIOR GRAVITATIONAL FORCE SPLITS THE MOON. IT BECOMES A WHIRLING BALL OF JAGGED MASSES THAT GRIND EACH OTHER TO PIECES!
THE REGIONS OF EARTH BELOW THIS COSMIC CATASTROPHE ARE BOMBARDED WITH FALLING METEORITES. ENTIRE CITIES ARE DEMOLISHED, MORE THOROUGHLY THAN THEY WOULD BE BY ANY BOMBING FLEET!

Next Issue: IF INSECTS

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RULED HUMANITY

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A department conducted for members of the international SCIENCE FICTION LEAGUE in the interest of science fiction and its promotion. We urge members to contribute any items of interest that they believe will be of value to the organization.

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The old Science Wonder Stories was the first science fiction magazine to present the outstanding works of such foreign writers as Otto Willi Gail, Otfried Van Hanstein, James M. Walsh. It was the first s-f magazine to publish popular scientific articles. It was the first magazine ever to publish a serial by John Taine. The first ever to publish a story by the late Stanley G. Weinbaum. And the first ever to publish a companion s-f magazine.

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Thanks again for making this great magazine possible. And get ready for our Fifteenth Anniversary Issue!—THE EDITORS.

THE QUEENS SCIENCE FICTION LEAGUE MEETING OF FEBRUARY 5TH, 1939

The first meeting held in our new club rooms in Bohemia Hall on Feb. 5th, was attended by 22 persons, which included such prominent names as John D. Clark, L. Sprague de Camp, Chas. D. Hornig, Julius Schwarts, Thos. S. Gardner, Will Sykora and many others.

The meeting was called to order at about 3:30 P.M., and the min. were accepted as read by the Secretary. Taurasi then announced that the first issue of VADJONG was unavoidably delayed, and will be distributed at the next meeting. Sykora gave a brief report of the program committee. Next Moskowitz was called upon to give a report on the Convention. He stated that the Convention will be held in July the 2nd, 3rd and 4th.

Director then called upon the guests. L. S. de Camp, and John D. Clark, both gave a short speech after being introduced. Moskowitz again was called on, and this time he said that the Convention will have to be sponsored by the NEW FANDOM'S cash and all those interested in joining the NEW FANDOM and that way assuring a successful Convention, will please get in touch with Moskowitz.

At this time Sykora presented two girls, who wished to become members of the QSFL. Rose & Frances Alberti now bring the total membership to 27. J. W. Campbell, Jr., may attend the next meeting.—MARIO RACIC, JR., Secretary-Treas.

LOS ANGELES CHAPTER MEETING OF JANUARY 19, 1939

For the interest of those who read this column, this was the 75th consecutive meeting of the Los Angeles Chapter, not counting extra

(Continued on page 122)

MOST POPULAR STORY IN APRIL ISSUE

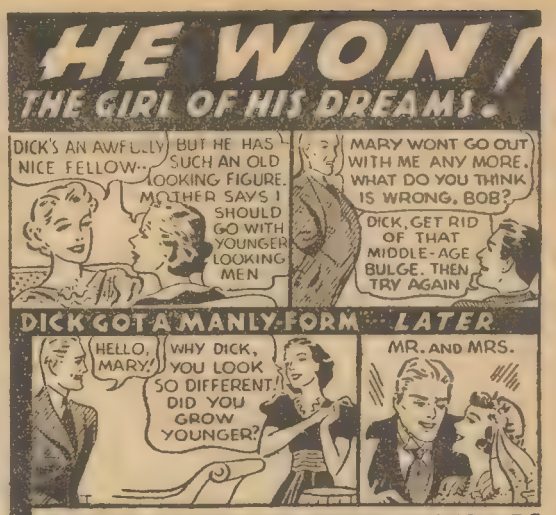
Here, in each issue, THRILLING WONDER STORIES announces the most popular story in the preceding issue. Whether it's a novelet, short story, or short short—your vote will designate your favorite story.

April's best-liked story, based on an analysis of all letters to the editor, was:

THE JULES VERNE EXPRESS
A Novelet by
EANDO BINDER

Second and third places, respectively, went to FRANK B. LONG, Jr., for WHITE BARRIER, and ALFRED BESTER, for THE BROKEN AXIOM.

Which do you consider the best science fiction story in this all-star issue?


HE WON!
THE GIRL OF HIS DREAMS!
DICK'S AN AWFULLY NICE FELLOW...
BUT HE HAS SUCH AN OLD LOOKING FIGURE. MOTHER SAYS I SHOULD GO WITH YOUNGER LOOKING MEN
MARY WONT GO OUT WITH ME ANY MORE. WHAT DO YOU THINK IS WRONG, BOB?
DICK, GET RID OF THAT MIDDLE-AGE BULGE. THEN TRY AGAIN
DICK GOT A MANLY-FORM LATER
HELLO, MARY!
WHY DICK, YOU LOOK SO DIFFERENT! DID YOU GROW YOUNGER?
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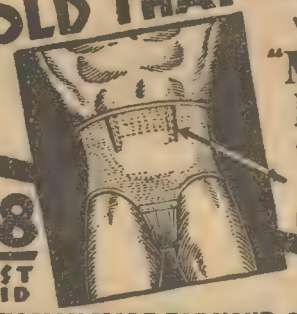

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(Continued from page 121)

meetings or Hollywood Meetings. More discussion of Film Revival. Fred Shroyer, old and active member, had to resign due to outside pressure. A skit was presented by Ray Bradbury, Perry L. Lewis, Roy A. Squires and M. R. Foulkes, being a discussion between Life, Death and Fate, in regards to mankind.

MEETING OF FEBRUARY 2, 1939

Helpful total of 22 present. New Constitution was read at Los Angeles Meeting. More discussion about the film revival, dealing with tickets and the like. After this, Entertainment Committee sponsored a scientifictional quiz, which was greeted with favorable attitude. New Member: Warren Oswald, who promises to take the place of Shroyer in profusion of interest.

LOS ANGELES FILM REVIVAL

By the time this appears the following event will be history. Undertaking what is probably the biggest job ever put over by a scientifiction organization, the Los Angeles Chapter, S.F.L. put on, on Friday night, March 10, 1939, as a midnight show, the popular semi-phantasy comedy, **The Ghost Goes West,** with Robert Donat and Jean Parker. This was done in the **Apollo Theater, in Hollywood,** open to the general public. Tickets were 35c. (At the time this is being written we hope to take in between $100 and $200 on the project.) The theater was rented for two performances, after 11:00 P.M. for the amazingly cheap price of $50. Money was put up by the following members of the LASFL—Charles Henderson, Russle J. Hodgkins, Paul Freehaffer, Forrest J. Ackerman, and Ray Foulkes, all ten dollars, and A. Ross Kuntz, and the Treasury, each five dollars. Those who did most of the work and contacting were **Charles Henderson and Ray Foulkes.**

We meet four times a month, 1st and 3rd Thursdays at Clifton's Café, 648 S. Broadway, Los Angeles, Little Brown Room, 3rd floor, rear, from 6:00 on. Our **Hollywood Meetings** are on the 2nd and 4th Wednesdays of the month, at the St. Francis Hotel, cor. Hollywood Blvd. and Western, from 7:30 on. No meal facilities in the Hotel. For further information contact Secretary T. B. Yerke, 1207½ N. Tamarind Ave., Hollywood, Calif. It is also advisable to contact the above or phone Forrest J. Ackerman, FEderal 2236 as the Hollywood Meetings may change within a few weeks.

NEW MEMBERS
UNITED STATES

W. E. Brumfield, St. Louis, Mo.; Thos. Marshall, Knoxville, Tenn.; Harry C. Nieman, Phila., Pa.; Robert J. Young, Houston, Texas; Melvin Albom, Brooklyn, N. Y.; Lorenzo J. Chieco, Norwood, Ohio; Mel Kampe, St. Louis, Miss.; Douglas E. Whitney, % Postmaster, San Francisco; Wm. Senseeny, St. Pete, Fla.; Richard Nelsen, Portland, Ore.; Joseph Blyans, Illinois, Mich.; Iris R. Vaughan, Newport, Monmouth; E. M. Korshak, Chicago, Ill.; Harry Salant, N. Y. C.; Robert W. Dubora, Baltimore, Md.; Roger C. McKee, Flint, Mich.; Albert F. Hirsh, Baltimore, Md.; Ed. Durst, Avon, Ohio; Arthur Donchod, Jr., West Babylon, N. Y.; William LaBahn, Evanston, Ill.; Helen A. Dick, Johnstown, Pa.; Wesley Graham, Rapid River, Mich.; Everett Strikland, Lockport, N. Y.; Raymond Parr, N. Y. C.; Ed. Eveland, Milwaukee, Wis.; William Corson, Chicago, Ill.; E. Vincent Nelson, Los Angeles, Calif.; Melvin L. Merritt, Portland, Ore.; Chas. VonEnde, Minneapolis, Minn.; C. Williard Robard, Normal, Ill.; Roger Valois, Fall River, Mass.; Emil Uhor, Follansbee, W. Va.; James A. Kerr, Honolulu, T. H.; W. P. Rihorn, Berkeley, Calif.; Donald Jewell, Modesto, Calif.; Blaine Dunmire, Charlotte, Pa.; Bud Gray, Sioux City, Iowa; Bill Gardner, Pa.; Vincent Hoffman, Topeka, Kan.; Joe Perez, Ft. Worth, Texas; B. Kershaw, Vancouver, Can.; Steve Grabin, Eynon, Pa.; Edna Leithman, Stockton, Calif.; Joseph A. Saracena, Brooklyn, N. Y.; Wm. Spearman, Chicago, Ill.; Don Thompson, Cleveland, Ohio; Gordon Walsh, White River, Vermont; Frank Knight, Brooklyn, N. Y.; R. P. Bowles, Jr., Cartersville, Va.; Bloom, Ray, Lebanon, Tenn.; Fred Hernik, Brooklyn, N. Y.; Arthur Forrest, Millington, Mich.; Louis Kahn, N. Y. C.; Jack Duncan, Wichita, Kan.; Freddy Kiehl, North Little Rock, Ark.; Donald Ford, Kingston, Ohio; Murray Enkin, Toronto, Ont.; Stanley Stroud, Zion, Ill.; Sylvester Brown, Cambridge, Mass.; L. R. See, Phoenix, Ariz.; Wm. J. Keppler, Washington, D. C.

FOREIGN

John Dickson, Glasgow, Scotland; Donald C. Atkins, Brighton, Sussex; F. Bolton, Yarmouth, England; Albert G. Patrick, Hayes, England; Frank Wood, London, England; Dennis Brotherton, Northumberland, England; Eric Tallis, London, England; John Fitzpatrick, Coventry, England; Roy Godwin, Manchester, Lancashire; Ronald Sly, England; C. W. R. Withers, Surrey, England; Wm. Fearon, Seacliff, England; Michael Hericky, Birmingham, England; Alan P. Grant, Port Talbot, England; Tom C. Knott, Northampton, England; Joseph T. Tasker, British Suiada.

APPLICATION FOR MEMBERSHIP
SCIENCE FICTION LEAGUE

Science Fiction League,
22 W. 48th St., New York, N. Y.

I wish to apply for membership in the SCIENCE FICTION LEAGUE. I pledge myself to abide by all rules and regulations.

Name .....
(Print Legibly)

Address .....

City .....

State ..... Age.....

Occupation ..... Hobby.....

I am enclosing a stamped, self-addressed envelope and the name-strip from the cover of this magazine (tear off name-strip so that the name THRILLING WONDER STORIES and the date can be seen). You will send me my membership certificate and a list of rules promptly. (Foreign readers must send an International Reply Coupon, or American stamps, with their applications or they cannot be accepted.)

6-39

NO MORE FRICTION

(Continued from Page 98)

tore his hair, but after that affair he was on the verge of surrendering, of giving Timothy Tompkins whatever he asked for. But Timothy Tompkins did not know that—Timothy Tompkins who took off his overalls as janitor in Blunt's Metropolis Building that night and tumbled into bed.

Tompkins sighed heavily. Well, he had done almost all he could, and he seemed to be getting nowhere with Blunt. He would have to strike at Wall Street now — the heart of the money district, the pulse of America. . . .

WITH his new and better demagnetizers that would work by remote control from the basement of the Metropolis Building, Timothy Tompkins was ready. Sending a trusted assistant down to Wall Street to throw the switch at the proper time, he threw aside his cloak of silence and gave a startling story to the newspapers through an advertisement he inserted. The papers carried the story with scareheads, as well as the ad which warned New Yorkers to stay out of a two-mile radius of Wall Street between nine and five that day, and to start no machinery of any kind within that area. Shipping was warned; also airplanes.

The inventor felt shivery tremors down his back as he read those stories.

"Maybe I'd better call it all off," he muttered. "Something might go wrong and there'll be thousands of curious down there. No! I won't call it off! Blunt must be made to pay. If they won't heed the warning, let them blame him! At nine I'll phone Pete to push the button."

Down in Wall Street business was starting as usual. And unusual crowds were in the streets, curious crowds, milling about looking for promised excitement; in carnival moods. Subways, elevated lines, buses and automobiles brought their quotas to add to the thousands trying to get inside the two-mile circle.

Vendors had grasped the opportu-

(Continued on Page 124)

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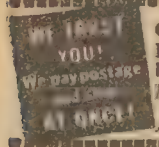

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EVERY MONTH **10c** AT ALL STANDS

(Continued from Page 123)

nity for gain, and were crying their wares—flags, balloons, ground grippers to be put on shoes. One man was even selling skis. His was the spirit of the crowd that did not believe anything was going to happen, but wanted to be there if it did.

"Slide on the cement!" he yelled. "Don't wait for winter!"

Suddenly, a few seconds after nine, it happened!

Through field glasses, as he stood on the roof of the Metropolis Building, Timothy Tompkins saw a hundred elevators crash through the tops of buildings, sail into the air, then crash sickeningly down to the streets. Thousands of people were sliding helter-skelter. Ferry-boats, steamers, crashed into each other. Automobiles plunged in every direction, with surplus power and no control.

In Timothy Tompkins' wildest dreams he had never expected totally to eliminate friction in that region, and much of the gravity.

"I've got to stop it!" he screamed. "Hundreds will be killed! They're dying now!"

He raced for the telephone.

"Hello! Hello! Peter? Listen to me — *listen!* Turn it off! Turn — What? You can't hear me? I'm screaming now! Turn it *off!* I *am* talking as loud as I can! There's something wrong with my voice — it's squeaking! Turn it off, turn—"

He dropped the phone suddenly.

"The line is dead!" he groaned. "Every piece of electricity in the city is out of commission, I suppose—motors running wild. I can hear it—tearing loose! I've got to stop it—God, I can't walk! Everything is sliding. I'm slithering into hell with the blood of thousands on my hands, and I cannot talk above a whisper!"

* * *

SOMEONE had him by the shoulders, shaking him.

"Wake up! Timothy! You're having a nightmare."

He opened his eyes. Surprisingly he was still on his basement cot. Beside him stood Caroline, George

Blunt, and a woman he had never seen before. They all seemed happy and excited.

"This is Mrs. Blunt," said Caroline. "She came to see me and we decided to put an end to that nonsense outside of the Fifth Avenue stores. It interferes with our shopping terribly. She and I have brought Mr. Blunt so you two can get together and fix it up."

"Right, Tompkins," Blunt admitted ruefully. "I'm surrendering unconditionally, and I advise you to do the same."

Timothy Tompkins looked wildly around.

"Then—then it was a dream—that disaster in Wall Street? I didn't kill anybody?" He let out a sigh of relief. "Whew! I dreamed that I used my demagnetizers downtown and killed a lot of people."

"Of course you didn't kill anybody," said Mrs. Blunt. "And you won't. The trouble between you and George is all over, and he's going to build you a laboratory where you can invent things all day long. He will market them and you can share the profits equally."

"And we can play bridge every night!" exclaimed Caroline.

Tompkins' eyes twinkled. "I see I shall have to invent something to make bridge games pleasant for married people," he murmured.

"You're a great inventor, darling," said his wife, as she kissed him. "But not even you are likely to do anything about taking the friction out of bridge."

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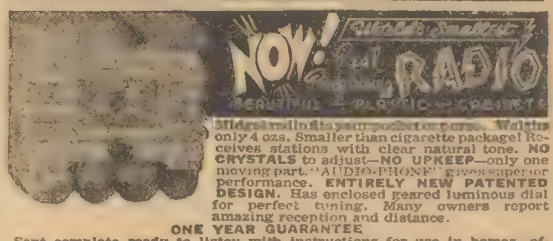

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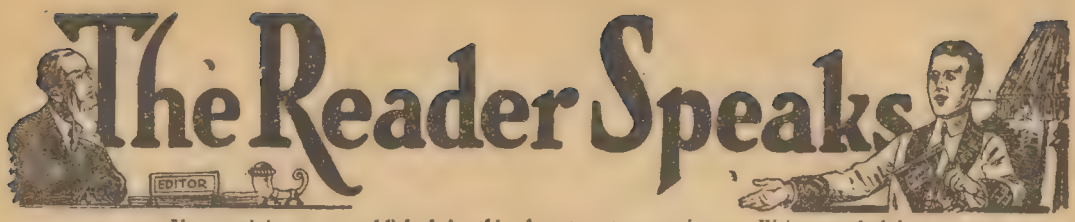

Your opinions are published in this department every issue. Write regularly!

CONGRATULATIONS

By Arthur L. Zagat

Congratulations on your tenth birthday, best wishes for the next ten. And the next. If you keep on the way you're going, T. W. S., if you keep changing, keep getting better and better, there will be more decennials for you than I have had birthdays.

I'd like to be around when a radioprinter brings you into the homes of the scientifans of the Twenty-First Century on platinum sheets, in letters of light.—New York City.

THREESOME TIDINGS

By Earl, Otto and Jack Binder

Congratulations to THRILLING WONDER STORIES on its Tenth Anniversary issue, and for the privilege of representing our threesome in this number. We hope to be contributing to T. W. S. for many more decades. —New York City.

BEST WISHES

By Stanton A. Coblentz

Best wishes to THRILLING WONDER STORIES on its Tenth Anniversary Number! —Mill Valley, Calif.

MILLION-DOLLAR LINE-UP

By Jim Avery

Say, that's a million dollar line-up you've got there! Sounds pretty nearly impossible . . . having Taine, Smith, Keller, and Weinbaum all under one cover!

I'm anxious to see what sort of writers the sons of Edgar Rice Burroughs are. With their background of science fiction and fantasy, they should be tops. The title sounds intriguing.

And I wonder how you will be able to cram four novelets, four shorts, biographies, etc., into one issue!—55 Middle St., Skowhegan, Me.

(We did it!—Ed.)

LIKES CONTEST TALES

By John V. Baltadonis

The best illustrations for the April issue were: Finlay's for "Experiment"; Wesso's for "White Barrier"; and Jack Binder's IF.

The stories I liked best in this issue were: "Zeoh-X," "The Jules Verne Express," and "White Barrier" . . . The best of the three is Binder's story; it barely manages to nose out Long's tale.

I also enjoyed reading Alfred Bester's contest story, "The Broken Axiom," and Ward Hawkins' "Men Must Die." I'd like to see more contest stories in the future . . . more interior illustrations by Paul and Finlay.

The Anniversary issue looks as if it's gonna be some stuff! I hope it lives up to my expectations. If so, it'll be one swell issue. —1700 Frankford Ave., Phila., Pa.

BRAVO FOR BROWN

By Solomon Zolmanovich

The story I liked the best in the April issue was "Experiment." It was quite logical, unusual, and most of all, thrilling. Eando Binder's "Jules Verne Express" is second, but not a close second, although it was one of the best stories I've read in a long while. The climax was most unusual and clever.

"Men Must Die" is worth mentioning. The contest story, "The Broken Axiom," also has my vote, and I hope Alfred Bester turns pro.

Artist Brown made a pretty good job of the cover illustration. The torture machine was nicely portrayed. I'd like to see your magazine oftener than bi-monthly. It's such a long wait between issues.—708 Pine Street, Darby, Penna.

ALL THE LUCK IN THE UNIVERSE

By Ralph C. Eisleben

Congratulations! Your April issue of THRILLING WONDER STORIES was one of the best issues I have read in a long time (and I have been buying your magazine from its first issue). In my opinion "The Jules Verne Express" was the best story in the issue, and the finest that E. and O. Binder ever wrote (and they've written many a fine one).

Although I have bought your magazine since it first came out, I have just now taken it upon myself to join the SCIENCE FICTION LEAGUE. I think the club is one of the finest ideas for advancing the cause of science fiction.

You may think it peculiar that I am not tossing any of the well-known brick-bats at you, but so help me, I can't find a single thing wrong with your magazine. May it be that I never do!

You may expect a letter from me every month, commentating and tossing, not brick-bats, but violets on the preceding issue.

So here's wishing all the luck in the Universe to you and your magazine and for what it stands.—382 Madison Street, Brooklyn, N. Y.

SEEING IS BELIEVING

By Ernst W. Gschwender

I wish to thank you for your swell companion magazine, STARTLING STORIES, and for obtaining Virgil Finlay as illustrator. I've admired his work in weird magazines and his ability as a cover artist. Why don't you give him a chance at a cover? The only good cover I have ever seen on T. W. S. was by Wesso, and illustrated a J. W. Campbell, Jr., story.

Glad to hear that you are going to publish "Dawn of Flame." I've always figured that the "Black Flame" was a sequel to this story. I also wish to say that I'll have to see the Tenth Anniversary Issue before I believe that what you are going to do can be done.

Now that you have a companion magazine which publishes novels, I would like to see a John Taine novel in it. I have a book in front of me now, written by Taine. Its title is "Before the Dawn."

Best of luck to the futures of both T. W. S. and S. S.—7827 Senator Ave., Detroit, Mich.

FAVORS FINLAY

By S. A. Speirn

Just a line to pass judgment on the April T. W. S. Best stories—"Men Must Die" and "Experiment." Worst stories—"Beyond Annihilation" and "Madness From Mars." Artist Finlay's work on "Experiment" was fine. Let's have more of him.

How about printing one enlarged drawing without printing each issue?—Detroit, Mich.

A REAL EVENT

By George Aylesworth

I have just finished the April issue of THRILLING WONDER STORIES and thought that all the stories were good, especially Binder's novelet, "The Jules Verne Express." Congratulations on your Tenth Anniversary! The

BEST FUN, FICTION AND FOTOS IN

June issue promises to be a real event in the world of science fiction.

With Paul, Finlay and Wesso on the art staff, and Taine, Weinbaum, Keller, Smith and Williamson in coming issues it isn't hard to see that T.W.S. is forging way ahead of the other s-f mags.

The departments are always interesting, but THE READER SPEAKS needs a report from Hoy Ping Pong. Jack Binder's illustrated feature, IF, is excellent.

Good luck to T.W.S. and its companion magazines, STARTLING STORIES and STRANGE STORIES.—Box 686, Mackinaw City, Mich.

OLD FAVORITES

By Charles T. Lore, Jr.

In my opinion, the story, "Experiment," was the best story published in your magazine since "Hands Across the Void."

A long time ago, a story, "The World in a Box," by Carl Jacobi, got me interested in THRILLING WONDER STORIES. I've read every issue since then. I'm sorry I missed out on the stories that have appeared before my time. I suggest you reprint the very early stories that were good for the benefit of myself and those who were as unlucky as me.

Most stories that attract attention are written in diary form. Authors, take note.—306 South Clinton Avenue, Trenton, N. J.

BESTER BEST

By David McKinney

My congratulations! To you for printing it! To Mr. Bester, for writing it! The best story of the year is "The Broken Axiom."

The mad theory of "Madness from Mars" upsets my whole system, however. The fallacy lies in the reason given by Mr. Simak for the insanity of the men and beasts concerned. To quote: "Fur Ball . . . talks with ultrasonics that approximate 30,000,000 cycles." Again: ". . . sound reaching that frequency cannot be heard . . . make direct impact on the brain . . . disarrange the brain, give it a murderous complex . . ." The frequency mentioned is reproduced daily by man. No elaborate equipment is required, either. That frequency is merely 30 megacycles, or ten meters. Since I am a radio amateur, I use that frequency daily, for communication with distant countries, and no effects on the mind from this, either!—Amateur Station W4FFF, Box 816, Kingsport, Tenn.

ATOM ADDICT

By Alan Saun

The most enjoyable story in the April issue of THRILLING WONDER STORIES was "The Jules Verne Express," by Eando Binder. The second best was Henry Kuttner's "Beyond Annihilation." This was closely followed by "Madness from Mars," by Simak. The most interesting department is IF. THE READER SPEAKS should contain more letters.

My favorite type of science fiction story is the sub-atomic variety. I haven't seen as many as I'd like to in THRILLING WONDER STORIES. One of the greatest stories of this variety was "A World Unseen," by Joseph Skidmore.—Toronto, Canada.

COVER PERFECT

By Norman Cobert

I'm a regular reader of THRILLING WONDER STORIES but only recently I've thought of joining the SCIENCE FICTION LEAGUE.

I think that Virgil Finlay's illustration for the short story, "Experiment," is the best in the magazine. On the cover, the Jovian's features are a bit metallic; otherwise the cover is perfect.

"White Barrier," by Frank B. Long, Jr., is one of the best novelets I've ever read, and I think it deserves first place in popularity. "Men Must Die," by Ward Hawkins, was second best, and "Madness from Mars," by Simak, takes third place.

The contest story was pretty good.

(Continued on page 128)

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10c AT ALL STANDS

(Continued from page 127)

GOING IN FOR ART

By Frederik Pohl

I was pleased to see my name in the list of persons who had received Honorable Mention in your Amateur Writer's Contest. The listing was a spur to my ambitions, so you can expect a profusion of stories from me.

In the February issue, "World Without Chance" was great, a better story than any other in any science fiction magazine for the past year. It was based on a theme which has been insufficiently exploited for fictional purposes: that of entropy, the most basic of functions. Author Cross deserves a permanent niche in the s-f Hall of Fame, and I want to be the first to propose "World Without Chance" for reprinting in 1949.

Your art work continues to be good, though I can't cheer about Paul's return to the field. Most of Paul's defenders say that though his characters are wooden, he draws his machinery well. Well, your new artist Schomburg equals Paul's best in his illustration for "The Telepathic Tomb," and his figures are incomparably better than Paul's over-chinned, slope-spined, m o n o t o n o u s monstrosities. Schomburg, though, would be well advised to go to the laboratory rather than the movies for his models of electrical apparatus.—280 St. John's Place, Brooklyn, New York.

COSMIC ERROR

By Isaac Asimov

I hope you can find room for this short letter in THE READER SPEAKS if only to counteract the otherwise mistaken impression that your readers would get from the item in J. B. Walter's "Scientifacts" (an exceedingly interesting department) headed the "Corrigan Planet." It states in plain terms that Uranus revolves about the sun in a retrograde direction.

From an astronomical point of view this is an appalling error, for it is well known that **every major body in the solar system** rotates about the sun in the same direction, **Uranus included.**

What is interesting about Uranus is that its axis is tilted at an angle of almost 90 degrees so that its rotation about its own axis is roughly up and down as compared to the side to side motion of the other planets.

There are certain bodies of the solar system that revolve about the sun in a retrograde direction. Many comets do so, but comets are considered intruders into the system from interstellar space (some visiting us only once and some being "captured" more or less permanently) and so they can scarcely be considered as typical. Then, too, the smaller chunks of rock, such as meteors or a few of the asteroids may be individualists as to the direction of revolution. However, that's all.

There are three satellites in the System of which we know that rotate about their primaries retrograde. The outermost of Saturn's moons (Phoebe) and the **two** outermost of Jupiter's (no names) are peculiar in this way. All three are small bodies and are considered to be asteroids captured by the giant planets rather than ordinary satellites.

No one need take my word for this. I refer you to any astronomy book. If I'm wrong, I guarantee to build a spaceship, fly to Uranus, and eat it whole.

Best wishes on your Tenth Anniversary.—174 Windsor Place, Brooklyn, N. Y.

(Mr. Walters pleads guilty. Correction noted. Thanks for bringing this to our attention—and you won't have to eat a spaceship. Is our space read!—Ed.)

MORE NOVELS COMING UP!

By Don Passante

The advance notices for the forthcoming novel, "Dawn of Flame," look pretty good to me, and I hope that the policy of featuring a complete novel in each issue of THRILLING WONDER STORIES is to continue.

There must be plenty of good short novels

BEST FUN, FICTION AND FOTOS IN

around, stories that we readers can sink our teeth into. What are our chances, Ed.?—Union City, New Jersey.

(Mr. Passante will be pleased to learn that we intend to continue this brand-new feature. Henceforth THRILLING WONDER STORIES will publish a long, complete novel in each issue. This means that the word content of the magazine will be considerably increased, at the same time retaining all our other regular stories and departments. What do you, and other readers, think of this policy? And what kind of stories would you like to see in novels? ' Please write in and tell us, readers. —Ed.)

SCIENCE IN STRANGE STORIES

By Charles S. Carew

Have just finished reading No. 2 of Volume 1 of your new STRANGE STORIES.

To my mind, the whole magazine is a gem of thought-provoking material.

Was pleased to note that most of the stories were based to a great extent on sound scientific fact, bringing me to realize that your periodical is opening to the public a new type of science fiction, one that is more bizarre in speculation, more fantastic in its realisms than the usual.

I believe there are a great number of natural forces which are, for the most part, imperceptible to the human mind, but which, once understood, need be no more frightening than any others that are at present familiar to us. In fact, it is my belief that they may even be harnessed to be of use to mankind, as electricity has been. This is logical, as being of natural origin, they must follow natural laws, thus can be curbed and harnessed.

I have conducted a few experiments of my own in thought- and astral projection. I hope to contribute a story to your fine magazine at a later date encompassing a few of my experiences.—57 Wellington St., Lindsay, Ont., Canada.

(Note: STRANGE STORIES is a companion magazine of THRILLING WONDER STORIES. We happened to peep into the mailbag of STRANGE—and thought Mr. Carew's letter interesting enough to publish here.—Ed.)

ANSWERS TO SCIENCE QUIZ ON PAGE 117

POSITIVE OR NEGATIVE

1. False.
2. True.
3. True.
4. True.
5. True.
6. False. They were first called "giants" because of their high luminosities.
7. True.
8. True.
9. False. Jeans estimates that not more than 1 star in 100,000 can have a planetary system at present.
10. True.
11. False. The moon, shining by reflected sunshine, gives the solar spectrum.
12. True. While a single pearl may fetch several thousand dollars in the market, and a ton of shell only about $1000, the mother-of-pearl industry is a great deal more reliable as a source of wealth.
13. False. Only exception is when the sun is overhead.
14. True.
15. True. Aspirin to you!

TAKE A LETTER

1. a
2. a
3. b
4. c
5. d

SCRAMBLE-OLOGY

1. lava; 2. volcano; 3. stratum; 4. mesozoic; 5. glacier; 6. geyser; 7. erosion; 8. isostasy; 9. anticline; 10. jurassic.

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30x5.00-20	2.85	1.35
5.25-17	2.90	1.35
28x5.25-18	2.90	1.35
29x5.25-19	2.95	1.35
30x5.25-20	2.95	1.25
31x5.25-21	3.25	1.35
5.50-17	3.35	1.40
28x5.50-18	3.35	1.40
29x5.50-19	3.35	1.45
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31x6.00-19	3.40	1.45
32x6.00-20	3.45	1.55
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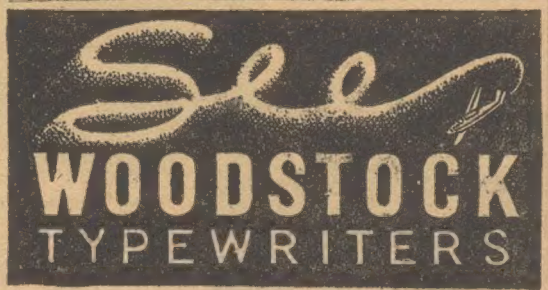

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* W. H. S., Alabama.

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Some of the Savings You Can Show

You walk into an office and put down before your prospect a letter from a sales organization showing that they did work in their own office for $11 which formerly could have cost them over $200. A building supply corporation pays our man $70, whereas the bill could have been for $1,600! An automobile dealer pays our representative $15, whereas the expense could have been over $1,000. A department store has expense of $88.60, possible cost if done outside the business being well over $2,000. And so on. We could not possibly list all cases here. These are just a few of the many actual cases which we place in your hands to work with. Practically every line of business and every section of the country is represented by these field reports which hammer across dazzling, convincing money-saving opportunities which hardly any business man can fail to understand.

Profits Typical of the Young, Growing Industry

Going into this business is not like selling something offered in every grocery, drug or department store. For instance, when you take a $7.50 order, $5.83 can be your share. On $1,500 worth of business, your share can be $1,167.00. The very least you get as your part of every dollar's worth of business you do is 67 cents—on ten dollars' worth $6.70, on a hundred dollars' worth $67.00—in other words two thirds of every order you get is yours. Not only on the first order—but on repeat orders—and you have the opportunity of earning an even larger percentage.

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Nor do you have to know anything about high-pressure selling. "Selling" is unnecessary in the ordinary sense of the word. Instead of hammering away at the customer and trying to "force" a sale, you make a dignified, business-like call, leave the installation—whatever size the customer says he will accept—at our risk, let the customer sell himself after the device is in and working. This does away with the need for pressure on the customer—it eliminates the handicap of trying to get the money before the customer has really convinced himself 100%. You simply tell what you offer, showing proof of success in that customer's particular line of business. Then leave the invention without a dollar down. It starts working at once. In a few short days, the installation should actually produce enough cash money to pay for the deal, with profits above the investment coming in at the same time. You then call back, collect your money. Nothing is so convincing as our offer to let results speak for themselves without risk to the customer! While others fail to get even a hearing, our men are making sales running into the hundreds. They have received the attention of the largest firms in the country, and sold to the smallest businesses by the thousands.

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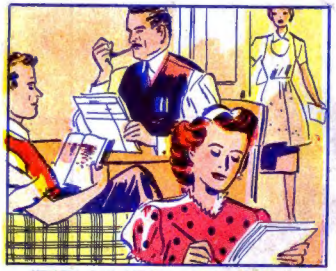

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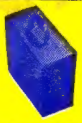

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